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TAX ASPECTS OF SUPERFUND COVERAGE OF PESTICIDE CONTAMINATION IN GROUND WATER

ORIGINAL

HEARING

BEFORE THE

COMMITTEE ON WAYS AND MEANS
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

FIRST SESSION

MAY 31, 1985
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TAX ASPECTS OF SUPERFUND COVERAGE OF PESTICIDE CONTAMINATION IN GROUND WATER

FRIDAY, MAY 31, 1985

HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
Honolulu, HI.

The committee met, pursuant to call, at 10 a.m., in Courtroom 4, 300 Ala Moana Blvd., Honolulu, HI, Hon. Cecil (Cec) Heftel presiding.

[The press release announcing the hearing follows:]

[For immediate release, Tuesday, May 7, 1985]

THE HONORABLE DAN ROSTENKOWSKI (D., ILL.), CHAIRMAN, COMMITTEE ON WAYS AND MEANS, U.S. HOUSE OF REPRESENTATIVES, ANNOUNCES A HEARING ON TAX ASPECTS OF SUPERFUND COVERAGE OF PESTICIDE CONTAMINATION IN GROUND WATER

The Honorable Dan Rostenkowski (D., Ill.), Chairman, Committee on Ways and Means, U.S. House of Representatives, today announced a public hearing concerning tax aspects of Superfund coverage of ground water contamination by pesticide usage. The hearing will be held on Friday, May 31, 1985, in Room C-462, the Federal Courthouse, Honolulu, Hawaii, beginning at 10 a.m. Testimony will be from invited witnesses.

In announcing the hearing, Chairman Rostenkowski stated: "The contamination of ground water by pesticides is a very serious problem. At present, six sites in Hawaii have been proposed for possible cleanup under the Superfund. Although taxes are imposed upon those feedstocks used to make pesticides, the administration's proposed reauthorization of the Superfund beyond September 30, 1985, would remove pesticide-contaminated sites from those qualified to receive Superfund moneys. I hope that this hearing will provide the committee with information to assist it in making important decisions in the upcoming reauthorization discussions."

BACKGROUND

In 1980, the Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (P.L. 96-510) which established a comprehensive Federal program to clean up hazardous waste sites and releases of hazardous substances into the environment. Under that legislation, revenues from a tax of 0.79 cents per barrel on crude oil and a tax on certain chemicals, imposed through September 30, 1985, are dedicated to the Hazardous Substance Response Trust Fund (Superfund). Amounts in the Superfund are available for certain hazardous substance cleanup and related costs.

The 1980 legislation also imposed liability on parties responsible for hazardous waste sites. However, persons may not be held liable for registered uses of pesticide. Hazardous waste sites with contaminated ground water from the use of pesticides are qualified for cleanup under the present Superfund. The administration's recently proposed reauthorization of the Superfund would remove these sites from those qualified for cleanup.

Six sites in Hawaii have been proposed for listing on the national priorities list for cleanup of pesticide contamination in ground water. The potential cost of clean-

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up of ground water contaminated by pesticides could be extremely high. Inclusion of such cleanup in the purposes of the Superfund could affect the amount of revenue needed to fully fund the cleanup over the next several years.

WRITTEN STATEMENTS IN LIEU OF PERSONAL APPEARANCE

Persons submitting written statements for the printed record of the hearing should submit at least six (6) copies by the close of business, Thursday, May 30, 1985, to Joseph K. Dowley, chief counsel, Committee on Ways and Means, U.S. House of Representatives, 1102 Longworth House Office Building, Washington, DC 20515.

Prepared statements filed for the printed record of the hearing, must contain the following information:

1. The name, full address, and capacity of the person for which the statement is being submitted, as well as a telephone number where the witness or a designated representative may be reached; and

2. A list of any clients or persons, or any organization for whom the witness submits a statement.

Mr. HEFTEL. Good morning and welcome to the Ways and Mean Committee hearing on Superfund.

Dick Gephardt, the Congressman from Missouri, and myself are delighted that you are here with us this morning.

And you don't know how delighted I am that Dick Gephardt and his wife Jane, who is sitting somewhere in the audience, are also here.

To the best of my knowledge, Congressman Gephardt left Washington some time yesterday anticipating that he would be in here about 8 o'clock last evening. But there has been a strike, and there have been some problems. And I think he arrived at about 1:30 this morning. He doesn't intend to return to Washington until tomorrow.

Or is it Boston?

Mr. GEPHARDT. Boston. Boston tomorrow.

Mr. HEFTEL. So, I share this with you because this is the second time that Dick has come out to participate in hearings in Hawaii. And in this instance, I was almost embarrassed when I realized what kind of a trip I was imposing upon him. Before I left Washington I said, "I don't know if this is really fair to you. Are you sure you want to do this?" And he said, "My wife is determined."

And so we are very pleased that he is here. And I think it is very important that he is here.

I think that we have to share some of the background on not just Superfund, but the whole question of the ground water contamination, and for a little bit of background for people like Dick who are still learning about Hawaii. He learns pretty fast.

We in Hawaii have depended for decades on income from two major crops, pineapple and sugar cane. Agriculture has been intensive because both crops require relatively large tracts, and available land is limited. Due to the nature of our year-round, warm climate, efficient agricultural production would be impossible without some form of pest control. This has led us to a rate of pesticide use in Hawaii that is 10 times the national average.

In July 1983, several drinking water wells on the central aquifer on the island of Oahu were ordered closed by the Honolulu Board of Water Supply due to contamination by certain pesticide compounds and breakdown components. Trace quantities of the pesticides EBD, DBCP, and TCP, a component of another pesticide had

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been detected in routine water quality monitoring. These pesticides were used as soil fumigants to kill root worms by the pineapple industry until their cancellation by EPA due to health hazards.

In September 1984, the Environmental Protection Agency, at the request of the State of Hawaii, proposed a Superfund national priorities list designation for six central Oahu well sites. The contaminated wells represent the most potentially hazardous environmental release of the 77 sites being tracked by EPA. According to the EPA's hazard ranking system, all six sites scored well above the 28.5 threshold for Superfund designation. In a public statement issued at the time, EPA Administrator Lee Thomas, who was then an Assistant Administrator for EPA's Superfund Program, stated that the definition of "environmental release" under Superfund was sufficiently broad to permit cleanup of the contaminated well fields. Public comments were taken; and the final national priorities listing designation decision is still pending.

In February of this year the administration submitted to Congress its Superfund reauthorization proposal. At that time, EPA announced its intention to specifically narrow Superfund authority to only toxic waste, and to limit ground water cleanups to only point-source contamination sites. Pesticide-contaminated ground water was excluded from Superfund response and remedial action. This recommendation is based on the supposition that Superfund should respond only to releases or threatened releases of hazardous substances from uncontrolled hazardous waste sites.

Thus far, congressional committees responsible for the reauthorization of Superfund have rejected this particular administration proposal.

We are holding this hearing in Hawaii today because our State has been among the first to come to grips with the pesticide-contaminated ground water problem. Industry and the State are working together to build a filtration system to provide clean water at one of the sites. Our State and industry officials are to be commended for this.

Yet, this endeavor alone will not solve our problems now or in the future insofar as who will pay for the clean up and maintenance of the rest of the wells and any other wells that may be found to be contaminated. We must begin now to look into the question of who should pay for cleanup. Clearly, the Federal Government cannot be expected to foot the bill on a nationwide basis for filtration systems and long-term maintenance of them.

Nevertheless, the Federal Government, through the EPA, must play a lead role in ground water cleanup. I think we can anticipate a shared role among EPA, the States, and industry, but we must define the responsibilities of each. If the administration does not feel that Superfund should be used for ground water cleanup, then it must provide another mechanism for Federal involvement. We as a State cannot be expected to have the same resources available to us as are available to the Federal Government; thus, we rely on the expertise of the EPA. If EPA tells us that a pesticide is safe to use, and 10 years later tells us that it is no longer safe and that it has irreparably contaminated our ground water, it cannot then shirk further responsibility and expect the State to deal with the problem.

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We are at the tip of the iceberg. In the next 5 to 10 years, the number of pesticide-contaminated ground water sites is expected to increase dramatically. For one thing we are just now beginning to develop technology to detect minute traces of chemical residues in ground water. We are still trying to understand how ground water flows, and whether we can predict with any certainty where contamination will turn up in the future, long after a pesticide is no longer being used.

Finally, we still have little idea of the long-term effect of these residues on our health and the environment. Many of the answers to these questions are still years away.

I believe that we in Hawaii have some expertise to offer other States that are only now beginning to recognize their pesticide problems, and I look forward to hearing our witnesses, who have come today to testify on Superfund. Each witness here today has been selected because of his or her expertise in a field that directly or indirectly relates to pesticide contamination of ground water.

Hopefully, we will, in our discussions, be able to provide Congress with some direction as to the direction we should go forward with regard to the cleanup of pesticides in ground water.

Thank you.

And now, with great pleasure, Mr. Gephardt, if you would like to say hello to all of the folks, it would be my pleasure.

Mr. GEPHARDT. I am honored and pleased to be here today with Cecil Heftel for a variety of reasons, not the least of which is that we came to the Congress together in 1976, and for the past few years have served together on the House Committee on Ways and Means, and so we have had a close, good relationship working on a variety of problems. And it really is a great honor to be with you again in Cecil's congressional district, talking about problems which affect you here, and, frankly, problems which are national in scope and which certainly are affected by the jurisdiction of our Ways and Means Committee.

Second, I am happy to be here because in my own district in Missouri, we have had a number of toxic waste cleanup problems different than yours, but in many ways related. And that experience has made me sensitive to the difficulties of dealing with all of these problems.

Difficulties not just in the local area where the problems occur, but difficulties in knowing exactly how the Federal Government and the Superfund should relate to the complicated environmental problems that we are finding around the country.

In my district we had a problem with dioxin which is a very dangerous substance when it is in the soil. And, in fact, you may have heard of Times Beach, MO, which is just outside of my congressional district, where in effect we had to purchase an entire town in order to get people away from the dangerous dioxin which was in the soil in many places in that small city.

The third and last reason I am glad I am here is because Superfund, which is related to all of the questions we have here today, is up for reauthorization in 1985, and the committee on which Cecil and I serve, the Ways and Means Committee, is the committee that has to decide how much tax should go into the Superfund and how that tax should be derived. And obviously when you start talking

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about how the Fund should be constructed, you also need to talk about how the Fund should be spent. And so what we are going to learn here today is going to be very helpful to us in trying to figure out how to construct that Fund in the next few years and what that Fund will be used for.

And one of the things I am very interested in today is the depth and severity and extent of the problem here, and also how that problem may manifest itself around the country. I am told that the ground water problem is not confined to Hawaii, although it is a very significant problem here.

But it is a problem we are going to be facing all over the United States. And it is something that we had better understand pretty well as we go into constructing this Fund for the future.

Let me again thank all of you for being here and thank Cecil for the opportunity for us to be here. I can assure you that Jane and I would have stayed up 3 nights and changed planes 20 times in order to be in Hawaii.

Thank you very much.

Mr. HEFTEL. Thanks, Dick.

And now I would like to commence the hearing with the testimony of William Hedeman, Director of the Office of Emergency and Remedial Response, U.S. Environmental Protection Agency.

I know Mr. Hedeman is sitting right there in the front row, and we are delighted to have him here today, and again I appreciate the fact that we know you did a lot of flying to be with us. And, of course, it is good for some of these folks to realize what it is like to do this very frequently when you come from Hawaii to Congress.

STATEMENT OF WILLIAM N. HEDEMAN, JR., DIRECTOR, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY HARRY SERAYDARIAN, DIRECTOR, TOXICS AND WASTE MANAGEMENT DIVISION, REGION IX

Mr. HEDEMAN. Thank you, Congressman Heftel and Congressman Gephardt.

It is a pleasure as well for me to be in this very beautiful State and to represent the Environmental Protection Agency at this hearing. I sympathize with Congressman Gephardt's physical state because I am coming from the same state and pretty much the same transportation schedules, so hopefully, neither of us will nod off during the hearing.

Mr. HEFTEL. Wouldn't that be interesting.

Mr. HEDEMAN. Yes, it would.

As you have indicated, my name is Bill Hedeman, and I am the Director of the Environmental Protection Agency's EPA Superfund Program.

With me today is Harry Seraydarian, Director of the Toxics and Waste Management Division in our Region IX office in San Francisco which oversees several States, including Hawaii. And Mr. Serayderian has a responsibility for, among other things, the Superfund activities in Region IX, as well as the pesticide programs, and also the RCRA Program.

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The implementation of the Superfund Program has been the agency's highest priority since the statute was created in 1980. As you have indicated, we now are confronted with the issue how that should be reauthorized.

It is a very difficult and complex program to manage, and frankly, much more so than we realized at the outset. But in the last 2 years, I am pleased to say, that I think that we have made substantial progress. We have long-term work underway at 300 sites on the National Priority List; and at another 400 sites in this country, we have been able to take emergency action to either stabilize or clean up these sites and eliminate any immediate threat to public health in the environment.

These actions involve a wide variety of situations ranging from the classic train derailment, a car which contained materials to a Love Canal type situation where we have an indiscriminate disposal of an alphabet of contaminates into the land.

I want to focus today on a number of issues, but begin with the CERCLA response authorities and how they impact our ability to respond to the problem of pesticides and ground water, not only in this State, but throughout the country.

In order to put this into perspective, I want to first focus on the entire scope for the Superfund problem in this country. There is no question that the law we are operating now has established a very broad Federal authority to deal with the actual releases or threats of those releases of hazardous substances into the air and into the land and into the water.

The act defines hazardous substance by referencing other environmental statutes. In addition, we can designate other substances by rulemaking, and we also may respond to releases of pollutants or contaminants which may present an imminent and substantial danger to public health and welfare.

The statue specifically excepts from response very limited categories. They are releases from the workplace, certain types of engine emissions, source, byproduct, or special nuclear material; and the normal applications of fertilizer. Petroleum and natural gas releases of a dangerous contaminant cannot be responded to under Superfund.

Since the inception for the Superfund Program, the focus of the program has been primarily on identifying, investigating, and responding to those sites which fall under the general description of more traditional hazardous waste sites.

EPA, the States, and the public set out to identify those sites that obviously had a hazardous waste problem or sites where there was a particular suspicion that there might be a problem.

Following this approach, EPA has identified approximatley 21,000 potential hazardous waste sites in our national inventory. Primary emphasis then shifted to investigating these sites, listing the more serious problems on the NPL, and initiating response at these sites.

Although our inventory continues to grow, the rate of growth has moderated. Sites such as municipal and industrial landfills require intensive record searches to identify their location, the type of materials they were receiving, and their ownership.

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Many of these sites can only be identified through facility-by-facility search and sampling. These sites will require targeted, systematic discovery and investigation efforts that are likely to be far more resource intensive than such efforts in the past.

We have said that we expect the inventory to grow to about 22,000 sites, though I note we are only 1,000 shy of that, resulting in a NPL of about 1,800 sites.

In addition, the focus and character of Superfund are expanding as the more obvious problem sites appear to have been identifed. Systematic investigation efforts to identify these sites would expand the size of Superfund well beyond our current estimates.

Some of the categories EPA and others have cited as major sources of Superfund expansion, recognizing that the law would permit it, are facilities that are: currently regulated under subtitle C of RCRA that receive hazardous waste on a commercial basis; industrial landfills; municipal landfills; of which there are thousands throughout this country that are either operating or closed; mining waste sites; and leaking underground storage tanks.

Estimates of the total number of sites in these categories vary greatly and do not provide a basis for estimating the numbers of potential Superfund sites, though I would point out that the estimates have been discussed in the hundreds of thousands, to millions.

Other problem categories for which we have no reasonable estimate include radioactive wastes, releases from naturally occurring hazardous substances and individual homes or commercial sites containing building materials with hazardous substances such as asbestos or pentachloraphenol.

Expanding on that for a moment, I note that we have been petitioned by the Boston School System to use Superfund to remove all of the asbestos in the school system. We have thousands of homes in this country built primarily in Tennessee, Kentucky, and Ohio that are well-kept, where the logs have been treated with pentachloraphenol and where the homes have had to be abandoned because the exposure to the releases to the pentachloraphenol was so great that obvious health problems are manifesting themselves.

The Office of Technology within the Congress suggests that the NPL could grow as large as 10,000 if the program were to include RCRA subtitle C facilities that close in the future and municipal landfills. OTA did not factor the other types of sites into their estimates, the ones that I just alluded to.

In fact, some for each of the above types of sites are now on the NPL. They are there because Superfund has been viewed as a sort of safety net for a variety of environmental and public health problems that have occurred in the past for which other alternatives to correct these situations do not appear available.

But the Superfund Program could easily be overwhelmed, financially and managerially, if it was completely and solely responsible for this greater scope of cleanup.

I am saying that I have been Director of this program since its inception. I am more firmly convinced of this position than any other that the management task we have ahead of us in terms of this national problem is simply overwhelming.

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And to expand the scope of this into areas that could conceivably emerge with no other approach in mind other than Superfund would not serve anyone's purpose.

Now, let me turn to Superfund reauthorization, and before getting into my testimony, talking about what I think are five issues that interact with each other. Ironically, in this country we have developed a complement of environmental laws primarily through the 1970's that have all focused on prevention. And I have felt in this country we have been inclined to be reactive rather than proactive.

The Clean Water Act came into play after rivers caught fire. The Clean Air Act came into play after we found it difficult to walk through California and other States and see the land in front of our face.

The irony is that as each of those acts begin to come into place and be implemented, they all focused on preventing future problems, and it was not unitl 1980 that I think we as a country through Love Canal and other types of situations began to realize that we had to also focus on correcting the past problems. That is the issue you have among others in Hawaii today.

There are five issues that I think the Congress has got to confront with the administration in the last 4 months of this fiscal year in which hopefully we will reach some sort of resolution and the law will be reauthorized. One is the scope of the problem, and I have already alluded to that in my testimony.

The second is the pace of the program. How fast can we move in this country to correct this situation and should we move under fixed schedules that we don't believe we can meet? The third one is how clean is clean.

I toured some of the pesticide contaminated areas with your State people yesterday, and I am convinced that the situation in Hawaii is extremely serious or has the potential of becoming that depending on the well field that we are talking about.

I am also convinced that neither you, nor I, nor anyone else in this room in our lifetime will see a technology that will allow us to exhume all of the ground water from the land, treat it, put it back, and correct the situation.

This relates to the "how clean is clean" issue, and exactly what type of cleanup standard we are going to be driving toward, and whether when we talk about cleanup we are talking about correcting the problem by ensuring that the public is not exposed to it through, perhaps, alternative drinking water, or filtration systems that ensure that the water is correct. Or whether we want to make a national commitment to go further and clean up the water that is underneath that has the pesticide contamination.

I don't believe that it is technically possible, and if it is technically possible, I believe it will cost many Superfunds to accomplish an underground aquifer cleanup just in this State.

The fourth one is the role of the State, and I think your remarks alluded to it. I am impressed that the leadership of the various agencies within this State have a handle on this problem and they are moving aggressively to deal with it.

I wish I could say that about all 50 States with respect to their problems. But certainly the role of the States, the partnership that

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you alluded to in your opening remarks, and the extent to which the Federal, State, and local government together with the private sector can work in this problem is the fourth issue.

And the fifth one is obviously the one that your committee is going to deal with. Where is the money going to come from? We obviously have a variety of proposals on that.

But it is not only where is the money going to come from. But how much can we effectively spend. How much can we draw out of this taxing resource that we have in this country? And how much do we want to over the next 5 years spend.

The administration has wrestled over those five issues, recognizing the fact that none of them can be looked at exclusively. They all interrrelate with the other four in terms of developing a proposal for reauthorization. The administration's bill has been entered into the House as H.R. 1352, and we propose that the Superfund Program be reauthorized through 1990.

It is a blueprint in our judgment for achieving cleanup of the uncontrolled hazardous waste sites in this country. It is not only carefully thought out, but it reflects our experience over the last 5 years.

And we frankly in the 5 years know much more than we did in 1980. And we certainly don't know as yet enough. It will buy us substantial amount of cleanup. It will give us the powerful tools to foster a significant chunk of private-party cleanup.

The administration's bill would deal with some 7.5 billion dollars worth of cleanup through 1990, including $5.3 billion in federally financed work, another $2 billion or so in private-party cleanup.

These resources will purchase impressive amounts of cleanup. By 1990 we project that we will have undertaken 1,450 engineering feasibility studies, about 1,000 designs, and approximately 900 construction projects.

Remedial work will be completed as well at over 600 sites. And in addition, we expect to conduct nearly 1,900 emergency cleanup actions.

While we will not be finished with the mission by 1990, we will have made a significant dent in the problem. And we will be well on the way to achieving one of the most ambitious environmental goals ever set.

In its proposal for the reauthorization of Superfund, the administration wanted the Superfund Program to remain primarily focused on the remedying of uncontrolled hazardous waste sites. These sites present serious threats to public health and the environment for which there are no other appropriate Federal authorities.

There are situations where Superfund was not deemed the appropriate tool such as releases covered under the Surface Mine Control and Reclamation Act, releases from the lawful application of a pesticide product, releases affecting residential dwellings, business or community structures; releases of a naturally occurring substance, or federally permitted releases.

In light of the above considerations, the administration proposed to limit Superfund response to pesticide contamination resulting from accidental releases or improper storage or disposal. The administration did, however, intend to retain the ability to use Super-

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fund to respond in situations where there is an immediate health threat, and we will utilize that authority without reservation.

I think I would emphasize that, because I have heard and seen too many comment that the administration's bill would simply walk away from the Hawaii situation. That is not the intent of this bill.

Now turning to the contamination of peticides and ground water from a national perspective.

We have found pesticides in ground water in a total of 25 States. As many as 50 pesticides have been found, mostly from normal agricultural use and others from disposal or spills during manufacturing or handling activities.

However, since to date there has been little systematic monitoring performed, we know little on a national basis about the extent of the presence of pesticides in ground water. We monitor on a routine basis for six pesticides in community water systems.

There is no required, routine monitoring in private wells. This is one reason why EPA's Office of Pesticide Programs and Office of Drinking Water are designing a national survey of pesticides in ground water, which I will discuss later.

In the summer of 1984, six sites in Hawaii were submitted by the State and EPA's region IX office as candidates for the proposed second NPL update. These sites are located in a 20-square mile radius in south central Oahu, HI.

Contamination of an aquifer used for drinking water had been documented, showing levels up to 190 parts per trillion of EDB, and up to 90 parts per trillion of DBCP. TCP had also been detected at higher levels. The pesticides found are all soil fumigants that have been used as nematocides in Oahu.

EPA determined that such releases could be scored using the Hazard Ranking System and proposed them for listing on the NPL. However, this was the first time that EPA considered listing sites with a release resulting from the presumed lawful application of agricultural pesticides registered under the Federal Insecticide, Fungicide, and Rodenticide Act [FIFRA] at the time of their use.

In trying to determine the impact of proposing the sites for listing the agency believed there were other areas for the country with similar problems, but found that it had little data on which to predict the number of potential problems or the degree of risk presented.

The agency also noted the fact that it is precluded under section 107(i) from recovering any response costs or damages if, in fact, the applied pesticides had been registered in conformance with FIFRA.

And finally the agency wanted to consider other potential authorities that could be available to address this problem, given its unknown but certainly large scope and the already heavy demands on the Fund by the current inventory.

With those concerns in mind, the agency proposed the sites in October 1984 and asked for public comment on the proposed listing and the factors it considered. Over 20 comments were received on this by the close of the comment period in December and they are still being evaluated. Since we are still in the midst of the rulemaking process, I cannot comment further on the outcome of the proposal.

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It is always useful to clarify the impact of placing a site on the NPL. In order to consider sites for the NPL, we use a mathematical model called the Hazard Ranking System which your opening statement has already alluded to, HRS, to evaluate the relative potential of uncontrolled hazardous substance facilities to cause health or environmental damage.

We look at the actual or potential effects of contamination through three routes of exposure: air, surface water, and ground water. However, the HRS by itself cannot establish priorities for the allocation of funds for remedial action. The HRS is a means for applying uniform technical judgment regarding the potential hazards presented by a facility relative to other facilities. It does not address the feasibility, desirability, or degree of cleanup required.

When a site is placed on the NPL it can be cleaned up in several ways. The responsible party can clean it up voluntarily. The State or local government can choose to assume responsibility without tapping the trust fund. The responsible party can be directed to clean up through enforcement actions; or the agency can use trust fund moneys to finance the cleanup.

When EPA works on a site, the first step in its process is a remedial investigation and feasibility study [RI/FS]. The objective of the RI/FS is to collect additional data on the extent of the problem as a basis for determining and evaluating available redmedies.

We have responded to releases of pesticides using Superfund in other circumstances. Over 50 removals actions have been taken thus far for pesticide situations with an expenditure in excess of $44 million. Most of the actions were abandoned pesticide facilities or hazardous waste dumps. Eighty sites on the NPL involve pesticides manufacturing, formulation, and disposal activities.

We at EPA are deeply concerned about the problem of pesticides in groundwater and have taken a number of other different actions to address it.

Superfund is a newcomer to the pesticide control arena, naturally. As you know, FIFRA was passed in 1947 with signficant amendments to focus attention on environmental and health considerations in 1972.

The agency has an intensive, ongoing effort in the regulation and control of the use of pesticides. Under FIFRA, EPA can require manufacturers to submit environmental fate data; deny registration of new pesticides, cancel or suspend registration of existing pesticides, restrict use, and require label changes.

With vigorous implementation of these authorities, EPA can prevent future ground water contamination from pesticides. The EPA Office of Drinking Water has established Maximum Concentration Levels for six selected pesticides. They apply to all water systems supplying over 25 persons.

In addition, we are considering recommended Maximum Concentration Levels which are nonenforceable health goals for additional pesticides in the near future. Drinking water standards or health advisories are being considered for numerous other synthetic chemicals and pesticides.

More recently, the agency has undertaken several initiatives to collect and evaluate data on pesticide contamination in ground water. It has initiated a special data call-in under FIFRA, requir-

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ing pesticide manufacturers to provide pertinent data on the environmental fate of over 100 pesticides.

In addition, as mentioned above, the Office of Pesticide Programs and the Office of Drinking Water in EPA are designing a national statistical survey of pesticides in ground water vulnerability. Sampling is targeted to begin in spring 1986 and will continue for 2 years.

The survey will give us a good idea of the national picture and enable us to target future monitoring and regulatory efforts. In the meantime, the agency is initiating a pilot project this year requiring industry to monitor for several pesticides which have been identified as potential leachers during the reregistration review.

Last year, the agency created a new Office of Ground Water Protection to implement its ground water strategy. The administration also established this year a task force charged with the responsibility to develop an agencywide strategy to address the pesticides in the ground water problem.

Now let me depart from my testimony, and the moment on that task force. I think task force often becomes bureaucratic jargon for postponing a problem.

That is not what this task force is. Going back to remarks I made that we tend to be reactive rather than proactive, I would point out that that indeed has been the case as I have observed it in the EPA over the last few years of Superfund. What we are finding as another interesting movement in the environmental area, is that we have over the last 10 years compartmentalized the environmental problems.

We have dealt with air problems as an air problem itself, but we have not as a national government dealt with an intermedia approach to the problems. We have not taken the authorities that we have in the 1970's and now in the 1980's, and essentially pulled them all together as a way in which to deal with a national problem.

The first situation ironically that forced EPA to do just that was the dioxin problem in Missouri that Congressman Gephardt alluded to. Confronted by the Times Beach situation and the fact that all our programs in EPA and the States had a myriad of different, and frankly, uncoordinated approaches to dioxin, we developed a task force that emerged with a strategy to deal with dioxin.

This strategy draws together our authorities under the Clean Water Act, Superfund, RCRA, FIFRA, and CERCLA, as well as all of our research programs and the State efforts. And that strategy was announced about a year ago and is currently underway. It is a comprehensive approach nationally to deal with dioxin rather than to dealing with it just through the Clean Water Act, or just through Superfund, or just through RCRA, or just through some other statute.

The same approach was used in developing the ground water strategy. In the next several days if it didn't occur after I left Washington, we will announce an air toxic strategy that in large part is related to the growing public concern after Bhocal, India; and the potential that that kind of situation may occur in this country.

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And now it is through the six pesticide sites, the six pesticide sites in Hawaii, that the agency has come to realize that it, too, must have a cross-cutting strategy for pesticide contamination in this country. The safety net of Superfund cannot be the only focus. We have to look at the enforcement authorities of the Safe Drinking Water Act, the Clean Water Act authorization, the Clean Air Act authorization, the FIFRA authority.

We have to look at the programs the Department of Agriculture administers, other Federal agencies, those of the States. We have to approach this type of problem in a comprehensive way.

That is what the administration, among other things, is saying in CERCLA, in the proposed reauthorization. Let us not rely totally on the safety net of Superfund to deal with this problem.

Give us a moment in time to recognize that this is a problem of national magnitude, that one piece of that may be the Superfund Program for certain components, but there are some very fundamental public policy issues.

Do we, for example, want to convey the cost of collecting ground water problems contaminated by pesticides to a limited industry that certainly is paying the tax for the Superfund now—the feed stock tax? Or, do we want to, as a national policy, impose that cost on the public at large, who benefits from pesticides in an almost universal way?

And if we do that, do we want that cost to come through a national tax that would expand the Superfund Program, or do we want that cost to be borne by State and local municipal purveyors of water as an alternative example? We would pass the cost through the users of water supply.

These are very fundamental policy issues, and I don't anticipate they will be obviously resolved at this hearing. But at the same time, what the administration is saying is that the only approach to this national problem should not be through the Superfund Program.

My testimony has gone somewhat longer than I anticipated, and I apologize for that. But I, and Mr. Seraydarian, are now available for any questions that you have. And I would ask that the prepared statement that I have be included officially in the record.

Mr. HEFTEL. So, it will be placed on the record.

[The prepared statement follows:]

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STATEMENT OF WILLIAM N. HEDEMAN, JR. DIRECTOR, OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, ENVIRONMENTAL PROTECTION AGENCY

Mr. Chairman and members of the Committee, it is a pleasure to appear before you this morning to discuss the Superfund coverage of pesticide contamination in groundwater. My name is William N. Hedeman, Jr. and I am the director of the Environmental Protection Agency's (EPA's) Superfund program. With me today is Harry Seraydarian, director of the Toxics and Waste Management Division in EPA's Region IX office in San Francisco; that office has been delegated much of the operational responsibility for Superfund activities in Region IX including Hawaii.

Implementation of the Superfund program has been the Agency's highest priority since the program was created in 1980 with the passage of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Admittedly, this is a difficult and complex program to manage, more so than we realized at the outset. But in the last two years, the Agency has made substantial progress in implementing the Superfund law. Long term work is underway around the country at over 300 sites on the National Priority List (NPL). At over 400 others, we have completed emergency cleanups and eliminated immediate threats to human health and the environment. These actions are taken in a wide variety of situations from the classic train wreck of dangerous volatile organic chemicals to the Love Canal type of dump containing an alphabet soup of hazardous waste.

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I would like today to focus on the CERCLA response authorities and how they impact our ability to respond to contamination from pesticides in groundwater.

SCOPE OF THE SUPERFUND PROBLEM

CERCLA established broad federal authority to deal with actual releases or threats of release of hazardous substances into the air, land or water. The Act defines a set of "hazardous substances" by reference to other environmental statutes; this list currently contains 698 substances. EPA may designate other substances and it may also respond to releases of "pollutants or contaminants" which may present an imminent and substantial danger to public health or welfare. The statute specifically excepts from response under Superfund workplace releases; certain engine emissions; source, byproduct or special nuclear material; and the normal application of fertilizer. Petroleum and natural gas releases are also excluded. But otherwise, almost any release of a dangerous contaminant can be responded to under Superfund.

Since the inception of the Superfund program, the focus of the program has been primarily on identifying, investigating, and responding to those sites which fall under the general description of more traditional hazardous waste sites. EPA, the States, and the public set out to identify those sites that obviously had a hazardous waste problem or sites where there was a particular suspicion that there might be a problem. Following this approach, EPA has identified approximately 21,000 potential hazardous waste sites in our national inventory. Primary emphasis then shifted to investigating these sites, listing the more serious problems on the NPL, and initiating response at these sites.

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Although our inventory continues to grow, the rate of growth has moderated. Sites such as municipal and industrial landfills require intensive record searches to identify their location, the type of materials they were receiving, and their ownership. Many of these sites can only be identified through facility-by-facility search and sampling. These sites will require targeted, systematic discovery and investigation efforts that are likely to be far more resource intensive than such efforts in the past. We have said that we expect the inventory to grow to about 22,000 sites, resulting in a NPL of about 1800 sites.

In addition, the focus and character of Superfund are expanding as the more obvious problem sites appear to have been identified. Systematic investigation efforts to identify these sites would expand the size of Superfund well beyond our current estimates.

Some of the categories EPA and others have cited as major sources of Superfund expansion are: RCRA Subtitle C facilities, municipal landfills, industrial landfills, mining waste sites, and leaking underground storage tanks. Estimates of the total numbers of sites in these categories vary greatly and do not provide a basis for estimating the numbers of potential Superfund sites. Other problem categories for which we have no reasonable estimates include radioactive wastes, releases from naturally occurring hazardous substances, and individual homes or commercial sites containing building materials with hazardous substances e.g., asbestos or pentachloraphenol.

The Office of Technology Assessment (OTA) suggests that the NPL could be as large as 10,000 if the scope of the program were were to include RCRA subtitle C facilities that close in the future and municipal landfills. OTA did not factor the other types of sites into their estimate.

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In fact, some of each of the above types of sites are now on the NPL. They are there because Superfund has been viewed as a sort of safety net for a variety of environmental and public health problems that have occurred in the past for which other alternatives to correct these situations do not appear available. But the Superfund program could easily be overwhelmed, financially and managerially, if it was completely and solely responsible for this greater scope of cleanup problems.

Superfund Reauthorization

The program we have put forward in H.R. 1352, the Administration's proposal to reauthorize Superfund through 1990, is a blueprint for achieving significant cleanup of uncontrolled hazardous waste sites. It is carefully thought out and based on first-hand experience. It will buy a substantial amount of cleanup. It will give us powerful tools to foster a significant chunk of private-party cleanup in addition.

Our bill will yield some $7.5 billion worth of cleanup through 1990, including $5.3 billion in Federally financed work and another $2 billion or so in private-party cleanup. These resources will purchase impressive amounts of cleanup. By 1990, we project that we will have undertaken 1,450 engineering feasibility studies, about 1,000 designs, and approximately 900 construction projects. Remedial work will be completed at well over 600 sites. In addition, we expect to have conducted nearly 1,900 emergency cleanups.

We will not be finished with the Superfund mission by 1990. But we will have made a significant dent in the problem. We will be well on our way to achieving one of the most ambitious environmental goals every set.

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In its proposal for the reauthorization of Superfund, the Administration wanted the Superfund program to remain primarily focused on the remedying of uncontrolled hazardous waste sites. These sites present serious threats to public health and the environment for which there are no other appropriate federal authorities. There are situations where Superfund was not deemed the appropriate tool such as releases covered under the Surface Mine Control and Reclamation Act, releases from the lawful application of a pesticide product, releases affecting residential dwellings, business or community structures; releases of a naturally occurring substance, or Federally permitted releases.

In light of the above considerations, the Administration proposed to limit Superfund response to pesticide contamination resulting from accidental releases or improper storage or disposal. The Administration did, however, intend to retain the ability to use Superfund to respond in situations where there is an immediate health threat, and we will utilize that authority without reservation.

CONTAMINATION FROM PESTICIDES IN GROUNDWATER

One particular category of site that is also discussed when considering the appropriate scope of Superfund is groundwater contamination from pesticides. Pesticides have been found in groundwater in a total of 23 states. As many as 50 pesticides have been found, mostly from normal agricultural use and others from disposal or spills during manufacturing or handling activities. However, since to date there has been little systematic monitoring performed, we know little on a national basis about the extent of the presence of pesticides in groundwater. We monitor on a routine basis for 6 pesticides in community water systems;

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there is no required, routine monitoring in private wells. This is one reason why EPA's Office of Pesticide Programs and Office of Drinking Water are designing a national survey of pesticides in groundwater which I'll discuss later.

In the summer of 1984, 6 sites in Hawaii were submitted by the State and EPA's Region IX office as candidates for the proposed second NPL update. These sites are located in a 20-square mile radius in South Central Oahu, Hawaii. Contamination of an aquifer used for drinking water had been documented, showing levels up to 190 parts per trillion of EDB and up to 90 parts per trillion of DBCP; TCP had also been detected at higher levels. The pesticides found are all soil fumigants that have been used as nematocides in Oahu.

EPA determined that such releases could be scored using the Hazard Ranking System and proposed them for listing on the NPL. However, this was the first time that EPA considered listing sites with a release resulting from the presumed lawful application of agricultural pesticides registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) at the time of their use. In trying to determine the impact of proposing the sites for listing, the Agency believed there were other areas of the country with similar problems but found that it had little data on which to predict the number of potential problems or the degree of risk presented. The Agency also noted the fact that it is precluded under section 107(i) from recovering any response costs or damages if in fact the applied pesticides had been registered in conformance with FIFRA. And finally the Agency wanted to consider other potential authorities that could be available to address this problem, given its unknown but certainly large scope and the already heavy demands

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on the Fund by the current inventory. With those concerns in mind, the Agency proposed the sites in October 1984 and asked for public comment on the proposed listing and the factors it considered. Over 20 comments were received on this by the close of the comment period in December and they are still being evaluated. Since we are still in the midst of the rulemaking process, I cannot comment further on the outcome of the proposal.

It is always useful to clarify the impact of placing a site on the NPL. In order to consider sites for the NPL, we use a mathematical model called the Hazard Ranking System (HRS) to evaluate the relative potential of uncontrolled hazardous substance facilities to cause health or environmental damage. We look at the actual or potential effects of contamination through three routes of exposure: air, surface water and groundwater. However, the HRS by itself cannot establish priorities for the allocation of funds for remedial action. The HRS is a means for applying uniform technical judgment regarding the potential hazards presented by a facility relative to other facilities. It does not address the feasibility, desirability, or degree of cleanup required.

When a site is placed on the NPL it can be cleaned up in several ways. The responsible party can clean it up voluntarily; the State or local government can choose to assume responsibility without tapping the Trust Fund; the responsible party can be directed to cleanup through enforcement actions or the Agency can use Trust Fund monies to finance the cleanup. When EPA works on a site, the first step in its process is a remedial investigation and feasibility study (RI/FS). The objective of the RI/FS is to collect additional data on the extent of the problem as a basis for determining and evaluating available remedies.

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The Agency has responded to releases of pesticides using Superfund in other circumstances. Over 50 removals have been taken with an expenditure in excess of $44 million. Most of the actions were at abandoned pesticide facilities or hazardous waste dumps; 80 sites on the NPL involve pesticide manufacturing, formulation, and disposal activities.

OTHER EPA ACTIONS

We at EPA are deeply concerned about the problem of pesticides in groundwater and have taken a number of other different actions to address it.

Superfund is a newcomer to the pesticide control arena, naturally. As you know, FIFRA was passed in 1947 with significant amendments to focus attention on environmental and health considerations in 1972. The Agency has an intensive, ongoing effort in the regulation and control of the use of pesticides. Under FIFRA, EPA can require manufacturers to submit environmental fate data; deny registration of new pesticides, cancel or suspend registration of existing pesticides, restrict use, and require label changes. With vigorous implementation of these authorities, EPA can prevent future groundwater contamination from pesticides.

The EPA Office of Drinking Water has established Maximum Concentration Levels (MCLs) for six selected pesticides; these standards apply to all public water systems supplying over 25 persons. In addition, we are considering recommended MCLs (non-enforceable health goals) for additional pesticides. Drinking water standards or health advisories are being considered for numerous other synthetic chemicals and pesticides.

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More recently, the Agency has undertaken several initiatives to collect and evaluate data on pesticide contamination in groundwater. It has initiated a special data call-in under FIFRA, requiring pesticide manufacturers to provide pertinent data on the environmental fate of over 100 pesticides. In addition as mentioned above, the Office of Pesticide Programs and the Office of Drinking Water in EPA are designing a national statistical survey of pesticides in groundwater that will sample areas of varying degrees of pesticide usage and groundwater vulnerability. Sampling is targeted to begin in Spring 1986 and will continue for 2 years. The survey will give us a good idea of the national picture and enable us to target future monitoring and regulatory efforts. In the meantime, the Agency is initiating a pilot project this year requiring industry to monitor for several pesticides which have been identified as potential leachers during the re-registration review.

Last year, the Agency created a new Office of Groundwater Protection to implement its groundwater strategy. The Administrator also established this year a Task Force charged with the responsibility to develop an agency-wide strategy to address the pesticides in groundwater problem. The Task Force will articulate the goals and objectives of the Agency in addressing pesticides in groundwater and how those goals will be implemented under current statutory and regulatory authorities such as the Safe Drinking Water Act, Clean Water Act and FIFRA. The Task Force will define the roles of EPA program and regional offices, other federal agencies, and State and local governments; and it will develop a set of appropriate prevention and response actions, both short-term and long-term.

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As I have tried to indicate, EPA is exercising all appropriate authorities currently in its regulation of pesticides with the goal of preventing future groundwater contamination. We are using the tools available under other statutes to protect public drinking water; and we are doing the work needed to collect the information on which to base any future proposals.

Thank you, Mr. Chairman, for this opportunity to discuss the Agency's concern for and response to the problem of pesticide contamination in groundwater and Superfund reauthorization. I will be happy to answer any questions.

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Mr. HEFTEL. I think, on behalf of Dick and myself, I want to thank you first for being here because that is what gives us this basic knowledge from which to work into this. And second, the comprehensiveness of what you presented, and I think the frankness with which you approached the problem or problems.

I have so many potential questions, that I want to limit myself to just one area, and that is the question of the wells themselves.

We know they are contaminated. We know that the problem is going to be national in scope. We know that Superfund in and of itself if not going to be the answer.

But the problem is still sitting there and needs attention now. We in the Congress, when we have a problem sitting in our district, have to take action.

It makes no sense to say we can't take action yet because we don't know how to proceed, because obviously we can recognize how to proceed.

And my question to you is, how would you propose, where we have identified the problem and need to take action, and let's say the State alone is not adequate either in technically aiding the problem or in financially aiding the problem, but should logically participate in determining what should be borne, how would you propose that we go forward with a problem like this where the attention is needed now?

And I am not saying that the State shouldn't participate in the cost, that the users of the water shouldn't participate in the cost, but you just can't wait indefinitely, and it would be indefinite, the way Congress operates, if we just waited for what might come in future years.

Mr. HEDEMAN. I am hopeful that we will have a national strategy coming out of EPA on the study, in the coming year, on the entire problem of pesticides in ground water. I would see in that strategy at the very least a role for Superfund to address any acute immediate threates to public health that may emerge.

They, however are admittedly Band-Aids, Band-Aids for a much longer problem. But I would say that the Federal Government through the Superfund would be available at any time in this State or any other States to address any immediate threat to public health, and to ensure that anyone assuming there were no other authorities or money available, that anyone coming in contact through drinking water or otherwise with a severe pesticide contamination problem, would be removed from that contact through Federal support.

Second, I see the agency moving to establish a larger number of national standards or advisories that may be available to State and local governments in this area. One of the difficulties, frankly, we have with FIFRA, is that it is somewhat inconsistent standardwise among the many other statutes we establish.

When we establish a standard of protection under the Clean Water Act or under the Safe Drinking Water Act, it is based primarily on a risk assessment approach. What is the acceptable risk to the public in consuming a certain amount of drinking water over a period of time.

In contrast, when we establish levels under FIFRA, there is a different analysis that the statute requires. It is balancing that risk

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against the benefits to society if that pesticide were not brought into play.

That is an altogether different approach to setting a standard. I would see the agency coming up with standards that could be available to the States and to the local purveyors of water that they may be prepared to use.

I do not see at this point in time, though, any support within the administration to make available money for long-term construction operation and maintenance of water supply systems to meet long-term chronic threats to public health. I see a support role and an advisory role, but I don't see any proposal coming out of the administration that would support a financial role for a long-term corrective action.

Mr. HEFTEL. May I then ask if you are saying specifically that you intend to interpret, or that we should interpret the administration's proposal that Superfund would cover the funding necessary for what are considered to be immediate health problems to the public where the cause of that health problem is a product of an existing ground water contamination as the examples we have used in Hawaii.

Is that basically what you are telling us?

Mr. HEDEMAN. That is correct.

Mr. HEFTEL. Well, that, I take it, is a step forward because the interpretation to this moment has been that the administration was implying, saying, no, we are not going to do anything. And you are saying that that is not the intent of the administration's proposal and not your interpretation of it. And that you feel the administration would be in agreement with what you are saying to us?

Mr. HEDEMAN. To the extent that we have as you may find when you review the administration's proposal, immediate threats to public health of a significant nature for which there are no other State or local authorities available to address them.

We have consistently said that we would be available, ready, willing, able and committed to funding whatever is necessary to address the immediate threats. We will have, I am sure, some disagreement on a site-by-site basis as to what is or is not an immediate threat. I certainly am satisifed that the situation in this State is such that with the plans of the various State agencies, that I do not see an immediate threat to public health, at this point in time, with respect to the contamination of pesticides.

Were that to change, and were the State agencies or the private sector unwilling to deal with it, the administration's bill would envision that we would step forward and commit money out of Superfund for that situation.

At the same time I would point out that we have carefully drafted the administration's bill only to limit the scope of Superfund with respect to pesticide contamination to fund finance response. Our intent is still to use every possible enforcement authority against responsible parties in that statute to the extent that they are available to correct that situation.

And while as I think your opening remarks alluded to, and my statement, we already have in the current law provisions that pre-

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vent us from cost recovery under the normal application of pesticides against some responsible parties.

I don't know what that—how that will be interpreted in the court. And I certainly think we would look for an interesting case to pursue in that area.

And, too, there is no one at EPA that feels that section 107(f) of the law has any relevance whatsoever to section 106 of CERCLA, which allows us to bring an enforcement action against any responsible person causing an imminent and substantial threat to the environment. So, the administration's proposal in no way intends to remove the enforcement authorities that we have under the current statute.

It is only focused on funding; and what we are saying is that given the magnitude of problems in this country, if funding is to be dedicated to pesticide problems, it should be only the immediate threat to which no State or local government can respond.

Mr. HEFTEL. And the other concern that I would like to share with you is whether we have a need for, in the law, a mechanism for the Federal Government—through Superfund or not—to participate in the cost of remedying these problems as they are revealed by EPA by the States, where the States say we want to and are willing to participate in the cost.

We can't handle it all ourselves. We need participation out of the Federal Government.

Do you think we need such a mechanism?

Mr. HEDEMAN. We have that mechanism in the law, and that is the Superfund. If the law is not changed, it would provide an option for the Federal Government to pay 90 percent of the costs, and the State 10 percent.

Mr. HEFTEL. But, not to interrupt you, I think the 90/10 is not what I am envisioning, where the interpretation you will use would be that the law doesn't require Superfund to move in.

Mr. HEDEMAN. Right.

Mr. HEFTEL. And the 90/10 would be interepreted as so much overwhelming Federal money, that it would be interpreted in a way that you wouldn't go forward.

What I am concerned with is where you are not going to immediately jeopardize and create health problems, where we see it coming in 1 or 2 or 3 or 4 years, or whatever the time frame may be.

And we don't want to wait for that to happen. We want to take action now; but can't do it alone.

Do we need another mechanism, whether it is 50/50, 60/40, or whatever it may be, that isn't in the law now?

Mr. HEDEMAN. We may.

Mr. HEFTEL. That is my main concern, because what I am hearing from you is that we don't have an intermediate frame of support from the Federal Government where the State is willing to take action and is willing to help beyond that 10 percent. And perhaps the 50/50 or some variation of that.

Mr. HEDEMAN. Certainly that is an option that has not been presented. The administration I think has been abundantly clear as to where it would like to be which is basically no Federal funding. On the other hand, if the administration's proposal is not accepted,

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there is the potential for the 90/10 Federal funding, if as a matter of policy the administration would address these sites.

I would say, regardless of how the reauthorization emerges on this, I cannot assure the committee that the administration will endeavor to address pesticide sites under the current structure of the law. If Congress does not accept the administration's proposal, the administration would still have an interesting policy issue to resolve as to whether we would continue to prioritize the effort in Superfund to focus on the uncontrolled waste sites in this country and not on the types of situations that are emerging, such as pesticides. However, no one has proposed for any discussion any other formula to address this type of problem.

Mr. HEFTEL. Certainly we can't say we will ignore the problem, let it rest as it has been potentially defined. I think we have to address that problem.

I think this is why we are holding the hearing. And I think you have given us great insight as to how we should approach the solution from the standpoint of Congress.

And I would like to turn to my colleague, Mr. Gephardt, for his observations and questions.

Mr. GEPHARDT. Thank you, very much.

And, Bill, it is good to see you here.

And to the people in the audience, my relationship with Mr. Hedeman goes back to the entire set of dioxin problems in Missouri. And we have learned together.

He has been more the teacher and me the student, but he has been a very responsive and gifted public servant. And I really am very high on his ability to administer the Superfund; and I am very happy to see him here today dealing with a very different set of circumstances, but trying to find the right answer for the Superfund.

And as his testimony indicated, he is trying to find a better way to deal with all of these problems through all of the resources of both Federal and State Government and the private sector.

I would like, if I could, just to go back to the steps that are available here with these wells so that I fully understand where we are legally and technically, and then I will ask you just one last question.

I take it that under the present policy, you will deal with a pesticide well problem if it is a clear and present danger to health, and if there is not State or local capability for dealing with it. Is that essentially what the problem is?

Mr. HEDEMAN. That is correct.

Mr. GEPHARDT. And under that then you have been willing to look at these wells to put on the national priorities list which is the procedure whereby you would start analyzing how, and in what circumstances, the Superfund might be willing to deal with this situation. Is that right?

Mr. HEDEMAN. Well, I would say that if we had our preference, we would have preferrred to adopt a national strategy for pesticide contamination of ground water before listing the six sites on the national priority list, and as a part of the rulemaking, lay that strategy out for public comment.

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Regrettably, that did not occur; and it did not occur because the national list of those sites, from the update which included the six sites in Hawaii, was leaked to the press within 3 weeks of the national election in which time, as you may recall, Superfund did play some prominent role in the Presidential election.

So we had no other choice than to put those sites on the list at that time and lay out the issue or the preamble to it, a call for public reaction that we would perhaps need at a different time to develop the strategy. Unfortunately, I would say, most of the comments were more focused on voting contest than they have been in terms of creative thinking in on of how to deal with the national problem.

And the vote is about 50/50. And, so, we are right back to my being able to conveniently say that since we are rulemaking, I can't give you our position. But I have no idea where we will come out on this.

Mr. GEPHARDT. So, your preference would have been to have this strategy announced for other reasons that didn't happen, so these did wind up on the list, or the candidate list, and you have announced rulemaking.

You have waited for comments. But the final decision on these sites, and whether or not they will wind up on the list, is yet to be made; is that right?

Mr. HEDEMAN. That is correct.

Mr. GEPHARDT. Is the criterion by which you will decide the question of whether or not there is an immediate and present danger, is that the policy you are deciding under?

Mr. HEDEMAN. That would be a separate criteria. We have wells, for example, in New England that are contaminated with pesticides that, through what we think is a normal application, that exceed 1 and 10 day health advisories, which in our judgement is a clear and immediate threat. If those numbers correlate with each other, and I am still waiting from our scientists as to what the numbers should be, we would respond by providing alternative drinking water or take some other corrective actions in New England.

The levels in Hawaii aren't anywhere near close to the type of immediate threat levels that we are talking about. They are measured in the parts per trillion. In New England, I am looking at in parts per billion and parts per million of these same contaminants, or orders of magnitudes higher.

So, what I am saying is that if a well or well field came to our attention that activated the Federal alarm bill in terms of an immediate threat based on standards that we have established for 1- and 10-day health advisories, then we would be in a position to respond.

On the other hand, if it came to our attention and revealed the presence of trace amounts or small amounts of pesticides that do not ring a 1-day or 10-day health advisory alarm, I am uncertain as to just where the agency will go at this point in time.

If it wants to consider using long-term remedial action, such as we are using at Times Beach for these types of sites, they will have to be placed on the national priority list. But there are categories of situations in this country where we have as a matter of policy

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excluded those types of sites from the maximum concentration levels even though they do present a chronic threat such as active RCRA facilities and perhaps some mining sites that seem to be candidates for response under other Federal programs.

Mr. GEPHARDT. So, when would you expect that a decision would be announced on whether or not these would be beyond the maximum concentration levels?

Mr. HEDEMAN. At that present time I would see that decision being made some time in the fall.

Mr. GEPHARDT. And, whether or not they wind up on the list, the next area to look at is the announcement of a strategy for ground water?

Mr. HEDEMAN. Which is also slated for some time in the fall, at this point.

Mr. GEPHARDT. And that would be analogous to what you did with dioxin, and what you are about to do with air toxins? So, that might lead us down another set of paths dealing with ground water?

Mr. HEDEMAN. Right.

Mr. GEPHARDT. And you said earlier that the situation in these wells here and in Hawaii generally with ground water was serious or bad, or you used an adjective which made it sound like it is a serious situation. I take it that it is as serious or more serious than what you have seen in other States. Could you characterize, without fully knowing the severity of this problem around the country, how Hawaii compares?

Mr. HEDEMAN. No. I am not really in a position—we have done very little monitoring in there.

I would not characterize the situation in Hawaii anywhere nearly as serious as it is in New England States and perhaps Florida where the levels of contaminants are higher. Perhaps by an order of a magnitude higher.

But I cannot say because we simply don't have that data base how they compare generally. I can only respond to your questions based on sporadic evidence we have in other parts of the country.

But just going back to some of the New England sites in Massachusetts where the measures are in the part per billion and part per million of the same contaminants that we are measuring here in Hawaii in the parts per trillion, I cannot characterize this situation from a national perspective as being as serious as some other areas.

I used the words serious in the sense that based on my tour yesterday throughout the area, there is no indication that this problem is going away. All the people who are in this State believe that it will be here for some period of time. The levels of contamination may grow.

Other wells may be—may also grow in terms of being contaminated, or come to the attention, and it is something that cannot be ignored in this State. But it is not something that I am convinced in my mind requires that we begin immediately tomorrow to put a major pumping station in every well on the island of Oahu to address these contaminants. I don't believe levels are that serious.

Mr. GEPHARDT. But what you are saying in response to Representative Heftel's last point is that when we get the strategy for

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ground water and as we look to the reenactment of this law, we may want to begin considering a different relationship between State and Federal Governments for the long-term treatment of this ground water contamination problem.

Mr. HEDEMAN. I anticipate on the part of the strategy we will look at—we are looking at the problem of pesticide contamination of ground water as it exists in Hawaii. And just hypothetically, let us say that the only thing that has contaminated the ground water in Hawaii is pesticides.

Now I asked the question yesterday, What do you measure for? And the answer, as I recall, was generally about three to four different substances.

I don't know today, and I doubt anyone does, whether other pesticide residues are in the ground water, or whether they are commingled in wells with other substances that may be coming from dump sites in the area we don't even know about, that some group of people may have put there in the past, or from fertilizer, just to pick another one, that may commingle with all these other substances.

All we know is that there are three or four known pesticide substances in the ground water, but I don't think we have all the facts necessasrily in front of us to answer every question that is put in front of us. In addition, I don't think we can look at the national problem from the standpoint of pesticides only in ground water.

They probably are just as serious nationally in surface streams. As you apply them, they may well run off the ground into the surface streets and into the rivers and such, and be lodged in the sediments, just like fertilizer or any other land application-type of practice. And the question is whether or not we have forged within the country the only response mechanism, namely, Superfund, to address this type of problem; or whether we have to be more creative to deal with contaminant situations in which there was not the intentional discarding of waste, as you have in the dioxin situation in Missouri, but instead the release of contaminants man knows to have potential threats, but man is using for his own benefit for the production of crops such as sugarcane, pineapple in Hawaii, or corn or other crops in the other States.

Mr. GEPHARDT. I have exhausted my time. I could go on for the rest of the day, but I really do appreciate your being here and addressing this problem. It is good to talk to you about something other than dioxin.

Mr. HEDEMAN. Yes, I agree.

Mr. HEFTEL. You mean you like to talk about some problems away from home for a change?

Mr. GEPHARDT. It is good to have you here, and I am sure that we will carry on this dialog for a long time.

Thank you very much.

Mr. HEFTEL. I have a feeling that Mr. Gephardt and myself could deposit ourselves with you for a few days of questions and answers and learning.

I think, though, that we do want to sort of summarize, in a sense, as Dick had been saying, and as I have been saying, with a realization that certainly Hawaii does not want to wait until we are the

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problem that you have described in New England. So, therefore, action should be sensible and must be taken now.

The question is how are we going to participate with the Federal Government, both in terms of knowledge and funding, in doing that. And I think you have told us that other than the 90/10 participation—Federal 90, State 10—we don't have the alternative. If we want to take the initiative to take action now, and financially are not in a position to do so alone, and do not have the knowledge we need to do it ourselves, then we need another mechanism within the Federal system then provides for something other than 90/10, 50/50.

So, there is an area now that we are learning about that requires still an additional legislative treatment that isn't available to us now. And I would like to know if, in effect, you would agree with that sort of summation?

Mr. HEDEMAN. I would agree with the summation. And I can't necessarily align myself with any particular proposal or conclusion that you have laid out, obviously.

But I would say that our intent in proposing this in the reauthorization was to bring about a national debate of this issue. And I respect you—you and Congressman Gephardt—for being the only two Members thus far, in the entire Congress, to take that opportunity, because this has not been, and I have testified before seven different committees in Congress over the last year, and there has been no dialog, no inquiry, no interest in this entire problem until today.

Mr. HEFTEL. I am sure that there is great concern as of today. And as we talk to our colleagues and come to understand what this problem represents, I think we will find a lot of Members joining with us in the concern that we have exhibited today.

And we are thankful to have someone like you, because without someone like you in bureaucracy, we can't function in the legislative ranks. And I do thank you for being here yourself and having this intelligent and insightful testimony, and sharing of your concerns and awareness with us.

Thank you very much; and thank you for your support that I am sure you afforded Mr. Gephardt and me.

I would now like to call Mr. Mel Koizumi, deputy director, environmental protection and health services division and Mr. Jack Suwa, director, State department of agriculture.

If I am reading my notes correctly, Mr. Koizumi will testify, and Mr. Suwa will answer questions if asked.

Mr. KOIZUMI. Well, essentially he is here as a resource person.

Mr. HEFTEL. Is he going to join with you at the table, or is he not present.

Why don't you just go ahead.

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STATEMENT OF MEL KOIZUMI, DEPUTY DIRECTOR, ENVIRONMENTAL PROTECTION AND HEALTH SERVICES DIVISION, HAWAII STATE DEPARTMENT OF HEALTH, ACCOMPANIED BY JACK SUWA, DIRECTOR, STATE DEPARTMENT OF AGRICULTURE

Mr. KOIZUMI. Congressman Gephardt, Congressman Heftel, I am Mel Koizumi, deputy director of environmental health. And I am presenting this testimony on behalf of the department of health.

Thank you for allowing the department of health to submit comments on the proposed update of the national priorities list of Superfund sites which includes six Oahu ground water contamination sites.

Of the original six ground water sites proposed, we support the listing of four sites contaminated by pesticides on the final national priorities list. The department of health and the board of water supply, city and county of Honolulu, both concur that of the original six well sites, the Mililani wells will be engaged in the production of safely treated water using the treatment system approved by the board of water supply and conceptually agreed upon by the department of health. This project has been funded by private parties and is acceptable to the department of health. The Waiawa shaft owned and operated by the Navy also provides good quality water. It has met known and adopted criteria for drinking water quality and is considered safe by the department of health. The department is in favor of removing the Mililani wells and the Waiawa shaft from the national priorities list and retaining the listing of the four remaining sites. The department of health strongly supports the final listing of the four board of water supply well fields on the revised national priorities list. The board of water supply well fields, Kunia Wells I, Kunia Wells II, Waipahu Wells, and Waipio Heights Wells II, are public facilites that have been contaminated by pesticides including ethylene dibromide [EDB], dibromochloropropane [DBCP], and trichloropropane [TCP].

We are aware that there are other States in the Nation facing ground water contamination by pesticides. An national policy should be developed immediately to address the issues of ground water contamination through pesticide releases. We are concerned that removal of these sites from the national priorities list would bury this very important issue. The Comprehensive Environmental Response, Compensation, and Liability Act, as presently promulgated, is sufficiently broad in authority to properly address these issues on a timely basis. We are unaware of any other Federal programs presently capable of addressing cleanup of groundwater contamination by pesticides. The department of health realizes that the listing of any hazardous sites on the national priorities list does not automaticaly commit the Environmental Protection Agency expenditure of funds for remedial actions. The primary purpose of the national priorities list is to identify sites that present significant risks to public health and/or the environment.

In addition, the national priorities list is intended to guide the Environmental Protection Agency in determining which sites warrant further investigation. However, in order for a site to qualify for Comprehensive Environmental Response, Compensation, and

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Liability Act funded permanent or long-term remedial actions, including construction of water treatment facilities, that site must be listed on the final national priorities list. We also understand that cost recovery of Comprehensive Environmental Response, Compensation, and Liability Act funded actions is not totally eliminated despite section 107(i) of the act. In other words, we can still have benefit of investigation and enforcement provided we are listed.

In conclusion, the department of health urges the Environmental Protection Agency to include the Kuna Wells I and II, Waipahu Wells, and Waipio Heights Wells II on the final national priorities list. We understand that final national priorities list. We understand that final listing of the four well fields does not necessarily commit the Environmental Protection Agency to clean up actions, yet recognizes the priority and magnitude of pesticide contaminated ground waters at a national level. The Comprehensive Environmental Response, Compensation, and Liability Act is sufficiently broad in scope and authority to properly address the complex issues of ground water contamination by pesticides and, unlike other alternative statutes, is currently funded to provide for immediate response action.

Thank you for the opportunity to testify and for your continuing support of our participation in the Superfund Program and Safe Drinking Water Program.

This concludes my statement.

Mr. HEFTEL. I would like to pursue with you the questioning that I shared with Mr. Hedeman.

Do you feel that we need an alternate program with Federal participation other than 100 percent Federal or 90 percent Federal so that we can more aggressively and quickly pursue such examples as the wells in Hawaii for remedial and corrective action?

Mr. KOIZUMI. I definitely feel there should be some activity that addresses this important issue. If not Superfund, then the alternative.

This hearing so far has been very enlightening to me in the proposed activities that EPA is alluding to in the future. Now, I don't know if that is going to completely fulfill our department of health functions in the prevention, but it is sure a step in the right direction.

Mr. HEFTEL. Do you feel that there is a lack of knowledge which we as a State or any other State alone is not going to be able to bring to bear and that we are going to need the scope of the federal system to bring more knowledge to the problem?

Mr. KOIZUMI. Yes, sir, and that is the purpose of coming to this hearing, to ensure that this particular issue again does not get buried if these well sites get removed from the list. Out of sight, out of mind? Is that the way it is going to be? Well, the department of health doesn't want it to be that way. We want the issue to remain alive. Because as we are addressing the other more critical contamination issue and the abandoned dump sites, these pesticide contamination problems will continue to exist. And I think it may be very insidious if we don't keep it in proper focus. It may sneak up on us in the future.

Thank you very much.

Mr. HEFTEL. Mr. Gephardt.

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Mr. GEPHARDT. I am going to ask you a question that is probably known to most people here, but I am not fully aware.

The wells that are in question, have they been closed? Are they not being used today because of contaminants that have been found in them?

Mr. KOIZUMI. That is correct. Of the six, two are back in production: the Navy and the Mililani, those we asked to be removed. We consider them safe at this point. The other four are out of production and there is no prospect of getting them back into production unless they are properly treated and studied.

Mr. GEPHARDT. How many people do those four wells serve, or how many homes may be a better way to say it?

Mr. KOIZUMI. I do not have that answer at my fingertip. I believe that someone from the board of water supply is also testifying and perhaps he may be better qualified to answer that.

Mr. GEPHARDT. At present, you have no way of being able to bring those wells back into production as it sits right now? Your agency and the other agencies here in the State don't have the means or the capability of bringing those wells back into production?

Mr. KOIZUMI. That is what I understand, yes. I am speaking—excuse me. I am speaking from the standpoint of the health department, therefore it is difficult to comment on the economics. But that is my understanding.

Mr. GEPHARDT. But your feeling is that the water is dangerous, that you can't use it now, and therefore you have said that they have to be stopped in terms of production?

Mr. KOIZUMI. That is right. And they won't go back on line until they are properly treated.

Mr. GEPHARDT. Are there other wells in the State that you are aware of that are presenting these kinds of problems in the future that may have to be cut off?

Mr. KOIZUMI. Not portable drinking water sources.

We have a few irrigation wells that if ag land is converted to—say to urbanization, and the water has to be committed instead of to the people, then those potential future——

Mr. GEPHARDT. So, the conclusion of your testimony is that if these are not put on the priorities list, then this whole issue could be lost, and your capability of dealing with it is limited, and if we are not going to put them on the priority list to be dealt with on the Superfund, then we have defined another long-term way to deal with the problem here in Hawaii?

Mr. KOIZUMI. That is correct.

Mr. GEPHARDT. Thank you very much.

Mr. HEFTEL. Thank you very much.

Our next witness is Kazu Hayashida, director of the Honolulu Board of Water Supply, who may be able to tell us how many homes have been cut off from the four wells.

And how are you today?

STATEMENT OF KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER, HONOLULU BOARD OF WATER SUPPLY

Mr. HAYASHIDA. Fine.

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Congressman Heftel and Congressman Gephardt, I am Kazu Hayashida, manager and chief engineer of the Honolulu Board of Water Supply, and we provide water for the entire island of Oahu.

Before I get into my testimony, I would like to digress a little bit.

The problem as we see it can because of increased technology in the measurement of chemicals.

Heretofore, we were measuring at parts per million. And if we had stayed on that standard, we would have no problem in Hawaii, but now they are able to measure in parts per trillion, and we have identified certain chemicals. If the state of the art gets even better than that, we will probably identify a lot more chemicals in the water.

The other part of the problem is that as we identify these chemicals, there is no real information on the health effects or the health risks of the chemical itself. And that is the other part of the problem. And without knowing what the health risks are and what levels might be on the threshold, we are committed to clean up the water, and especially if the health risk pertains to carcinogenic and mutagenic and adverse reproductive properties.

A cure for cancer has not been identified. And cancer is one of the most dreaded diseases, not only in Hawaii, but for the whole Nation.

When people smoke by choice, they take it so easily. They drive cars by choice, going to work. These provide probably greater risks to your life, and yet when you come to water, which people have to drink daily, people have a different perspective as to the risk that they would like to take for any amount of chemicals in the water. So it is in this context that we deal with a problem as a water purveyor.

Now, in the prepared text, we request that the Committee on Ways and Means retain the six pesticide-contaminated sites in Hawaii on the national priority list of sites proposed for cleanup under Superfund. And I guess our interest would also follow along the lines of Mr. Koizumi that this problem should be addressed.

We also request that a work plan be prepared by EPA for remedial and feasibility studies authorized under Superfund be carried out. Presently, five of the six sites listed on the national priority list, Mililani, which serves a population of 21,000, Waipio, which serves 6,500 people, and Kunia I, Kunia II, and the Waipio well system which serves a combined population of over 80,000 people. Three of the wells have been closed as a precautionary measure. These are Waipahu, Kunia II, and two wells in the Mililani area.

We could not close all of ours in Mililani because it is a self contained community with only one water system, and because of that and working together with the department of health, we have—we are operating three wells, two at a time, where the pesticide contamination is at or near the reliable detectable limits and also for TCP which we are using 3 parts per billion on the advisory that there are no known adverse effects at that level.

The chemicals we are dealing with are dibromochloropropane, DBCP; ethylene dibromide, EDB; trichloropropane, TCP, at this point in time. We are not sure how they got into the water, whether it is through normal application in the fields, from mixing areas, from spilled areas, or from a landfill.

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It is for this reason that we are asking that the work plan be completed, and the result of the study may give us a clue as to location of the source or whether we are in the beginning, the middle, or the end of the pollution problem. The implementation will help us plan long-term strategy for dealing with the contaminants.

The point I would like to stress here from the standpoint of the water purveyor and the water consumer, the water is just as polluted whether it comes from a pump or from the agriculture field. In addition, it is frustrating for water purveyors like Honolulu Board of Water Supply who have done a lot to preserve the purity of our water to be saddled with a problem we did not create and the expense.

The Honolulu Board of Water Supply has largely been responsible for getting watershed land set aside not only for recharge, but also for pollution control. The kapu sign that you may see as you drive around the watershed does not mean that it belongs to Mr. Kapu. In Hawaii, it means for reserve. In other words, keep out.

Land use in watershed areas are either prohibited or very restricted. We have also instituted a pass—no passline around the island. And lands above the land which overlie our aquifers on which no cesspools, injection wells, or sanitary landfills are allowed.

For pesticide use, we have relied upon the State department of agriculture to register hazardous material and to monitor its proper application. We feel that they have done a conscientious job with the information that is available. We also feel that pineapple companies follow labeling instructions in the application of the chemicals. In spite of the diligence, pesticides are in the water.

Again, it is no consolation to us, the water purveyor, to be left holding the bag. The Superfund is the only vehicle available from which funds can be used for cleanup of polluted drinking water.

Although I can understand the concerns of the Federal administration and the Congress on the high costs of adding sites that are contaminated by pesticides, the fact remains that many water sources need clean up to provide safe drinking water to the American people.

Like any other major program, there is not enough money to do everything. Assistance should be given to those areas that are severely impacted and where an unusual economic burden is placed on the local authorities.

In the hierarchy of Government, I believe that when local authorities are faced with an extraordinary program and they are making large efforts toward a solution and need assistance, it is appropriate for the Federal Government to provide the assistance. I believe that by including sites contaminated by pesticides in the Superfund Program, this criteria can be applied to priority for cleanup and should be given to severely infected areas which places an extraordinary economic burden on the local authorities.

In Hawaii's case, the board of water supply, upon discovery of the contaminants in the water, together with the department of health, closed three of the contaminated sites as a precautionary measure.

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At the same time we embarked on a program of treating the water. Because these are all volatile carcinogenic substances, we used the cooling tower which induced air draft systems to do research on whether we can take out the chemicals. And I think that we are—we found that we could do quite a bit with the removal of EDB and TCP. But DBCP, which was more difficult to remove, we were able to remove the contaminants from about 75 parts per trillion to less than 10 parts per trillion.

We also commissioned a consultant to look for any commercially available facility that can remove the contaminant. And two areas, one in aeration, and one in the use of granular activated carbon, were studied. The completion of that study was that the granular active carbon could do a better job of removal, and the cost was only slightly higher.

Of the three most contaminated sites, they will be treated with granular activated carbon filtration systems.

Mililani and Kunia well sites will have treatment systems installed by private parties at a cost of approximately $3.2 million.

The board of water supply will be installing a filtration system at Waipahu which is the only well which contains EDB. At this point, we do not know where it is coming from, whether it is coming from the pineapple fields, or whether it is coming from a serious gasoline spill. The other two sites have trace amounts of chemicals, and whether it needs to be treated will be determined by the action level or maximum contaminant level that may be set by the EPA or local authorities, and that is the local health authorities. For this reason, Hawaii may not receive high priority for cleanup.

In summary, I urge that you do all you can to make EPA complete the work plan for remedial and feasibility studies. In general, I feel the Superfund should be used for cleanup of all hazardous materials. It is the only vehicle available at this time. Superfund should be a long-term program to provide relief for existing conditions. A long-term solution should be prevention. This could be accomplished by requiring more research during the manufacturing of chemicals to ascertain health risks, not only for acute toxicity, but also for carcinogenic, mutagenic, and adverse reproductive properties.

This would ensure the production of safe chemicals by taking out of Superfund the money that can be contributed toward that fund and can be utilized in the research effort. And here the Federal Government, because agriculture is a high national priority, could effectively participate in that research.

I realize that our chemical companies are in competition with foreign companies in the production of pesticides. I feel that equally strict research efforts should be required of all foreign companies producing chemicals for use in this country. If they do not meet these conditions, their product should be banned from our market.

Thank you this opportunity to present testimony.

[The prepared statement follows:]

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STATEMENT OF KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER, HONOLULU BOARD OF WATER SUPPLY

My name is Kazu Hayashida, Manager and Chief Engineer of the Honolulu Board of Water Supply.

INTRODUCTIONS AND REQUESTS

We request that the Committee on Ways and Means retain the six pesticide-contaminated sites in Hawaii on the National Priorities List of sites proposed for clean up under Superfund.

We also request that the remedial and feasibility studies authorized under Superfund be completed. The results of the studies will be valuable to us regardless of whether construction funds are ultimately provided.

HISTORICAL BACKGROUND

The Honolulu Board of Water Supply has always prided itself with providing the best drinking water. Our motto is "Pure Water: Man's Greatest Need".

We have been instrumental in designating lands above the 50-inch mean annual isohyetal line preserved as watershed land. Land use is either prohibited, or very restrictive uses are permitted in these areas which provide recharge water for our underground aquifers.

A pass/no-pass line rims our island above which no cesspools, injection wells or sanitary landfills are allowed. This regulation is intended to minimize the pollution of our ground water sources.

Well drilling is controlled so that the wells are properly sealed to prevent pollution of the aquifers.

We routinely conduct chemical and microbiological tests to assure compliance with the safe drinking water regulations.

Regarding pesticides, we rely on the State Department of Agriculture to register pesticides used by farmers and plantations and monitor their proper applications. A primary concern is the misuse and prevention of water contamination. Everything seemed to be working well until 1982.

In October, 1982, we were rudely awakened to the news that dibromochloropropane (DBCP) was discovered in our Mililani Wells. The use of more sensitive instruments that measures to parts per trillion (ppt) levels confirmed that 90 ppt of DBCP was in Pump 5 of the Mililani Wells and lower amounts were in Pumps 1, 2, 3 and 4. Mililani has a population of 24,000 people.

By summer of 1983, DBCP was also found in Kunia II. Another compound, ethylene dibromide (EDB), was found in Waipahu Wells. These wells, together with Kunia I and Hoaeae, serve the communities of Waipahu, Ewa, Makakilo, Nanakuli, Waianae and Makaha, with a total population of 81,200.

In September, 1984, we confirmed the presence of trichloropropane (TCP) in Mililani, Waipahu, Kunia I, Kunia II and Waipio Gentry Wells.

Presently, tetrachloroethylene is being found in our Wahiawa Wells. The Schofield Shaft serving the army facilities at Schofield Barracks has been closed because of high concentrations of trichloroethylene. The discovery of hazardous chemicals in our water supply is just beginning.

As a precautionary measure, the State Department of Health requested the closure of Waipahu Wells, Kunia II Wells and Pumps 4 and 5 of Mililani Wells. By this action, we lost 6.5 million gallons a day of pumping capacity. To cope with the loss, our back-up pumps at Hoaeae and Kunia I Wells is being utilized to furnish the water lost from the closure of the Waipahu and Kunia II Wells.

Three pumps with low levels of DBCP and TCP were allowed to operate in Mililani because there were no other facilities to provide water to that community. A battery of 4 spigots was provided at Kipapa School from our Wahiawa System to provide residents with an alternative source of drinking water.

In addition, water wagons were also provided at three schools in the area.

Initial tests at Kunia I indicated only a trace of pesticides. Today, it contains 350 ppt of TCP and trace amounts of DBCP. The Hoaeae Well at which no trace of pesticides was detected earlier, is now showing trace amount of TCP.

Waipio Heights Well shows 150 ppt of TCP and serves a population of 6,500.

TREATMENT

We immediately started a search for information on the health risks and treatment methods for the removal of volatile organic chemicals. The State Department

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of Health was very helpful in obtaining data. Nevertheless, information was meager both nationally and internationally.

Because we were dealing with volatile organic compounds, we immediately conducted field tests on the use of air cooling towers similar to those used for air conditioning systems to aerate the compounds. We successfully removed EDB and TCP and reduced DBCP from 75 ppt to approximately 5 ppt.

In the meantime, we hired a consultant for $110,000 to investigate the use of a packed tower for aeration and a granular activated carbon (GAC) filtration system. The results of the study indicated that a GAC filtration system, although slightly higher in cost, will effectively remove all contaminants.

GAC filtration systems are being installed by private parties at Mililani and Kunia II Wells at a cost of $2.5 and $0.7 million respectively. They are expected to be in operation by October of this year. The Waipahu system will be installed by our Board of Water Supply at an estimated cost of $3.2 million. Our Board's operating cost will increase by $400,000 annually.

We are expanding our laboratories' capabilities to meet the increasing need to monitor our water supplies for more and more chemicals. These expenses will become a significant item in our budget.

SUPERFUND

The State Department of Health applied for financial assistance under the Superfund program. This is the only program we know of that provides funds for the clean up of hazardous materials from drinking water sources. We believe that Superfund was instituted to assure safe drinking water for the American people by funding treatment systems for contaminated aquifers.

Although the act specifically waives recovery of clean up cost from those who properly apply registered pesticides, we recommend that Congress use this vehicle and provide grants-in-aid to Superfund to assist water utilities in dealing with the high cost of clean up.

Superfund is necessary to deal with the existing condition and with time, it should terminate itself provided that practices that caused the contamination problem cease and preventive measures are instituted in the future.

RECOMMENDED LONG-TERM SOLUTION

We propose that as research is conducted in developing and manufacturing new pesticides, health risk assessments concurrently be determined, not only on acute toxicity but also on carcinogenic, mutagenic and adverse reproductive properties as well. Data is also needed for the setting of maximum contaminant levels.

This will assure the manufacture and development of pesticides that can be safely utilized.

Since agriculture production is deemed to have high national interest; therefore Federal participation can bring the greatest return at this point. The cost of research is manageable at this agricultural level because it will be spread over a wide sales base.

In contrast, to have States treat water after the detection of chemicals will become an unmanageable financial burden for the local authorities.

Prevention is the key to a successful long-range solution to safeguarding our drinking water sources and maintaining a healthy agricultural industry.

Thank you for the opportunity to testify on the Administration's proposed reauthorization of the Superfund beyond September 30, 1985.

Mr. HEFTEL. Thank you very much.

I think you have struck a responsive chord, namely why can't we do a better job of screening the pesticides that we use and in developing safe pesticides, because obviously in this case we have created our own problem, and we ought to do a better job preventing it from happening in the first place. But that is a Federal problem, and it was alluded to by Mr. Hedeman in talking about an overall plan that is needed instead of these departmentalized ways that we respond to the things that occur to us.

So when we need a pesticide, we develop one, and we go with it unrelated to the fact that with more thought and application we find that we should not be using it, and then force ourselves to do

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whatever is necessary and compromise to not contaminate water supplies by the use of pesticides that should not have been used in the first place.

In terms of funding, though, do you feel that we should be looking at an alternate other than the 90–10 under Superfund, 90 Federal, 10 local, where the Federal system says they can't do all that which is needed to be done in the 90/10 participation, but perhaps could participate in a lesser relationship of 50/50 as an example. Do you see a need for us to explore that legislatively?

Mr. HAYASHIDA. Before I answer that question, ideally, if the responsible parties—I mean everybody takes a risk, because we need pesticides for our agricultural production and food production, do we use pesticides, and when pesticides are found in water, then the manufacturer, the applicator, the State and local government, should get together and try to solve the problem together.

From the water purveyor's standpoint, we are a little frustrated. We are stuck with the bill. And if everybody did cooperate to solve the problem, I think that we would not need Superfund. But because of the situation where we are stuck with the problem, yes, I feel that if we can get whatever help that we can get from Government, whether it is 90/10, 50/50, that we could use funding, especially if down the line the contaminated levels are set at a very low standard, and all of our wells that we find pesticides in need to be corrected.

At that time, I think the funding would be above what we the board of water supply can fund. Even for these three wells which cost in excess of $6 million, this is about half of our capital improvement program. And, of course, we need to have funding to do other things to keep up with the increased need for water. That would generally in proportion be a large part of our expenditure. And I think if we could get some help from the Federal Government or the State government, that we would be able to manage that within affordable limits.

Mr. HEFTEL. One observation that obviously relates to 90 State, 10 local, is consistent with the fact that the problem was created by a Federal standard that allowed a pesticide or those pesticides to be used in the first place. And perhaps the first way to explain it to our own Federal Government is to say that if you are going to approve something and you make a mistake, you are going to pay 90 or 100 percent of the bill so that there is a merit in the 90/10 relationship. And I think we have got to maintain an area of responsibility on the part of the Federal Government where it assumes the discretion to determine what is legal to use, and then if it makes a mistake, I think you can't pass the problem on.

And that is one of the things we are going to have to look at so that the Federal Government realizes that the decision on what is going to be used as a pesticide is used in the realm of the Federal Government. They have that responsibility, and then they make mistakes, they are going to have to primarily pay for it. And so it is not a simple one. It is an overall problem, and we are getting pretty good insights.

Mr. GEPHARDT. Thank you for your testimony.

I would like to recap the number of people that are affected. A rough calculation, it looks like over 100,000 people if my figures are

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right, that are somewhat affected by these four wells; is that correct?

Mr. HAYASHIDA. That is correct.

Mr. GEPHARDT. And I take it that they all have an alternative source of water now? You are using other wells, or you are bringing in water from other wells to the school, whatever is necessary to be done to make sure that no one is without water?

Mr. HAYASHIDA. In Mililani, we were forced to use some of the wells that have pesticides, because that is the only system in Mililani.

We have brought in a spigot from which roughly 2,000 gallons a day have been taken for drinking water, but that is a spigot at one of these schools where all of the residences, no matter how far, have to go to that point to get drinking water.

Mr. GEPHARDT. They are hauling water there?

Mr. HAYASHIDA. We are always hauling drinking water to these schools.

Mr. HAYASHIDA. We are always hauling drinking water to these schools.

Mr. GEPHARDT. Are you saying that some people have to go from their home to a spigot to haul water for their drinking?

Mr. HAYASHIDA. That is correct.

Mr. GEPHARDT. How long has that been going on?

Mr. HAYASHIDA. Ever since we came up with the problem in 1983.

Mr. GEPHARDT. So, for over 1½ years they have been hauling water for drinking?

Mr. HAYASHIDA. That is correct.

Mr. GEPHARDT. If you are aware of the immediate danger—I don't know the right words—but the standard that the EPA is applying in deciding on whether or not to deal with the situation? I take it that you feel there is enough of an immediate danger from these wells that you closed down the wells; is that correct?

Mr. HAYASHIDA. Yes; and the problem is that I think even at a Federal level, they haven't defined what is safe. So, until they define it, we really don't know what is safe. And because of that, as a precautionary measure, we are cleaning up those wells that have the higher amount of contaminants.

Mr. GEPHARDT. When you say cleaning up, I take it that you are putting in filtration systems so that you can get the wells back into production; is that your plan?

Mr. HAYASHIDA. That is correct. In fact, right now we closed down the wells, so we are not using them. Now, these wells will be outfitted with treatment systems, and at that time we can then go back to using these wells. In the meantime, we are using backup pumps from the other wells, and so we are just crossing our fingers that we don't have mechanical problems; otherwise, we would be very hard pressed to deliver water in these areas.

Mr. GEPHARDT. Just a ballpark figure; how much would the cost be to fit these four wells with proper filtration systems so that you get the contaminants out of the water?

Mr. HAYASHIDA. Right now we are estimating roughly about $6.5 million.

Mr. GEPHARDT. $6.5 million?

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Mr. HAYASHIDA. Million dollars.

Mr. GEPHARDT. And do you have plans underway to go ahead with that $6.5 million system?

Mr. HAYASHIDA. Yes; two are being put in by private parties and one by our [phoenetic] board.

Mr. GEPHARDT. When you say private party, you mean private company, and then they will charge for people that use the water?

Mr. HAYASHIDA. Yes.

No, no; what I mean is that the situation came about where two companies are developing homes in the area and would like to proceed with additional developments, and because of the contamination, our sources became limited, and they feel that—the urgency in building the homes there, and they can afford—well, I don't know if they can afford it, but they are forced to afford contributing to those plants where they proceed with the development.

Mr. GEPHARDT. From what I have heard of real estate prices, they have some real affording going on.

The last question I have is, are you convinced that, when you put the filtration system on, that solves the problem?

Mr. HAYASHIDA. We have done research on it, and we find that we can remove the pesticides to the levels that we are now analyzing. As we get down to more refined monitoring, we may find again these chemicals at very low levels.

Mr. GEPHARDT. Thank you very much. That is very helpful.

Mr. HEFTEL. The developer in the one Mililani area, having lost credibility over the fact that the water was contaminated, had to take action to maintain their relationship with people who had already purchased homes, and then they had a problem that obviously they were going on with added development, and they had to make sure that the people had confidence in them and the water. So, they had to take action or they would lose their ability to go on with any more production.

Mr. GEPHARDT. I see.

Thank you.

Mr. HEFTEL. The next witness will be Mr. Vince Bagoyo, director of water supply, Maui County. We are delighted to have you here today. Did you fly in today or yesterday?

STATEMENT OF VINCE BAGOYO, DIRECTOR OF WATER SUPPLY, MAUI COUNTY

Mr. BAGOYO. This morning.

Before I read my testimony, I would like to extend an invitation to both of you to visit our beautiful island of Maui.

Thank you for the opportunity to testify today before the U.S. House Ways and Means Committee regarding pesticide contamination in our ground water sources.

What I will attempt to do this morning is to brief you of Maui's problems with regard to pesticide contamination in our existing and planned groundwater sources.

On March 20, 1985, EPA held a public hearing on Maui regarding Maui Pine's request to use existing stocks of dibromochloropropane [DBCP] as a soil fumigant in pineapple fields. In that public hearing, we testified strongly against the use of DBCP by Maui

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Pine in certain pineapple fields because of the potential contamination in our ground water sources.

We realize that the pineapple industry and agriculture as a whole have been a major part of Maui's economy. However, over the years many pineapple operations, both in the county of Maui and the State of Hawaii, have gone out of business for a variety of reasons. At the present time, Maui Pineapple Co. on the island of Maui, Del Monte Corp. on the island of Molokai, and Dole Co. on the island of Lanai, are the only large corporate pineapple farmers remaining in our county.

We firmly believe that agriculture in Hawaii, whether it be sugar, pineapple, diversified crops, or livestocks, requires as much support and assistance as possible. The policy of both the State of Hawaii and the county of Maui encourages the continuation of agriculture as an integral part of our economic base.

However, we view with great concern the utilization of pesticides on the island of Maui. Experience in Honolulu has clearly indicated by Kazu Hayashida the extensive cost and difficulty in dealing with contamination of domestic wells be DBCP. Unfortunately, once the problem arises, it is too late, and requires costly remedial measure.

For your information, DBCP contamination has already prevented the use of potential water sources on the island of Maui. During the March 20, 1985 EPA public hearing, the State department of health testified that during the summer of 1984, which was a period of low rainfall, the Hawaiian Commercial and Sugar Co. proposed to use the plantation's irrigations well No. 17 to supplement the public water supply. This use was disallowed when the source was found to contain detectable levels of DBCP as well as EDB and TCP. It should be noted that the source otherwise met the requirements of the Safe Drinking Water Act.

Additionally, according to the department of health, within the past several months, testing of Maui's irrigations sources has revealed that sources used to irrigate crops other than pineapple have been contaminated by the compounds DBCP, TCP, and EDB.

In 1983, a trace of DBCP was found in our samples taken from the well at the old Maui High School. Because of the relatively high detectable levels of DBCP, the use of the well was immediately discontinued for domestic purposes.

The county of Maui is already under severe pressure from the State department of health and the Federal Environmental Protection Agency to comply with the provisions of the Safe Drinking Water Act. We are doing the best we can, given our limited financial resources. We anticipate that to fully comply with the Safe Drinking Water Act an additional of approximately $10 million will be required over the next 3 to 4 years and will already place a significant economic burden on our community. It would, therefore, be almost disastrous should pesticide contaimination be found in any of our existing or planned domestic wells.

We know that we are already faced with major financial constraints in upgrading our existing sources, storage facilities and transmission lines to meet safe drinking water standards. Therefore, we strongly urge the Congress to financially assist us in upgrading our water systems so that we may conform to the provi-

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sions of the safe drinking water regulations and ultimately provide our residents with quality water.

Again, we thank you for this opportunity to testify in these very important issues. And if you have any questions, we will be very happy to respond.

Mr. HEFTEL. Thank you very much, Vince.

Are you in a position to know whether or not you are satisfied with the safety and health standards in Maui?

Mr. BAGOYO. As I mentioned earlier, I think at this point Maui County and the water department have no expertise in detecting levels of DBCP or any contaminants. We rely heavily on the department of health. We don't have that experience.

Mr. HEFTEL. May I ask if the State department of health has been able to satisfy your need for testing in determining the safety of your water supply?

Mr. BAGOYO. Yes; I can confidently say yes.

Mr. HEFTEL. Are you satisfied with the safety of the water supply today in Maui?

Mr. BAGOYO. In our system, we use for domestic purposes, yes.

Mr. HEFTEL. What then would be your concern as we go forward—in terms of financial need to maintain a continuing safe supply of water?

Mr. BAGOYO. If you are familiar with Maui, our system in Maui, especially of county areas which is surface water.

Mr. HEFTEL. Yes.

Mr. BAGOYO. We need to either treat that water for domestic purposes to come up with the acceptable standards.

Mr. HEFTEL. You do not now meet the standards for drinking water in the county ground water that has been contaminated by pesticide runoff; is that correct?

Mr. BAGOYO. The only well that has been contaminated that I know of at this point and that has been mentioned earlier in my testimony is the old Maui High School well, and that has been discontinued.

Mr. HEFTEL. Are you concerned though that you have other water supplies that are or will be contaminated?

Mr. BAGOYO. Yes; I am very much concerned.

Mr. HEFTEL. What is your concern in that respect? How is that contamination going to occur from what you know, and what can be done to stop it if we don't put in filter systems for the water to make it safe?

Mr. BAGOYO. The plans that we have—we have established a particular plan in terms of conformance of the Safe Drinking Water Act. We will install not only treatment facilities in these areas, but also a filter system to conform again with the safe drinking of water regulations, and we are committed to do so.

We are working very closely with the department of health and with the EPA to conform with those standards. We have established time schedules as to when to be completed and how to fund it and what system should be employed in this plan.

Mr. HEFTEL. Do you now have the funding in place that will allow you to do that which is necessary to filtrate the water in the county areas? Do you now have the funding in place that you know will take care of those needs?

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Mr. BAGOYO. At this point, yes; but for other projects that we have to do in the next several years, in addition to the conformance with the Safe Drinking Water Act, it would require a tremendous amount of dollars to do it.

We are reprogramming our funds to comply with the Safe Drinking Water Act. That means that some of our CIP resources development wi" have to be deferred for the next 3 or 4 years, which is badly needed.

Mr. HEFTEL. You are then saying that if you had all of the funding necessary for safe drinking water in the years ahead, you would unreasonably curtail other necessary programs on the island of Maui; is that correct?

Mr. BAGOYO. T" is correct.

Mr. HEFTEL. So, that you have to come up, I assume then, with an agenda which says there are the minimum services we have to provide. This is what we have to do for water. Here are the total dollars needed, and then there is a shortfall. We have to see what percentage of the water treatment that shortfall represents, and then where do those funds come from between Federal and State? Is that a reasonable assumption?

Mr. BAGOYO. Yes.

Mr. HEFTEL. We have got a lot of dialog ahead in the future.

Mr. BAGOYO. That is why I extend my invitation for you to visit Maui.

Mr. HEFTEL. Thank you.

Mr. GEPHARDT. You said in the next 3 or 4 years you are going to need $10 million just to meet the requirements of the Safe Drinking Water Act, and then you say that it would be disastrous should pesticide contamination be found in any of your domestic or planned domestic wells above and beyond what you already anticipate?

Mr. BAGOYO. That is correct.

Mr. GEPHARDT. So, what you are saying is that if you are going to have a problem getting $10 million together to meet the act, if you find that it is unknown pesticide contamination above and beyond what you anticipate, that the cost could go way beyond $10 million, and you question the ability of the people in the government in your county to deal with more cost than that?

Mr. BAGOYO. That is correct.

Mr. GEPHARDT. So, I guess what we are hearing is that if Maui faces what you are already facing on this island, the problem there will be just as great in requiring some kind of outside participation to meet the problem?

Mr. HEFTEL. No question.

Mr. BAGOYO. If I might add, the current administration, our mayor, is very committed to confirm to the Safe Drinking Water Act, and he has placed this high priority on this policy.

Mr. GEPHARDT. Thank you very much. I appreciate your testimony, and I also appreciate your invitation.

Mr. BAGOYO. Thank you.

Mr. HEFTEL. You may find us showing up some day.

Our next witness will be Dr. Barbara Siegel, director of the Pesticide Hazard Assessment Project, University of Hawaii.

Do we have a copy of Dr. Siegel's testimony?

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STATEMENT OF BARBARA Z. SIEGEL, PH.D., DIRECTOR, PESTICIDE HAZARD ASSESSMENT PROJECT, UNIVERSITY OF HAWAII AT MANOA

Ms. SIEGEL. I want to thank the Honorable Dan Rostenkowski, chairman of the Ways and Means Committee; and also to give very special thanks to the Honorable Cecil Heftel, Representative from Hawaii; and to the Honorable Richard Gephardt from Missouri.

Thank you for coming here.

I am Barbara Siegel, a professor and senior researcher at the University of Hawaii, and also director of the Pesticide Hazard Assessment Project which maintains a research laboratory that has an EPA approved quality assurance program. I have been involved in various aspects of environmental monitoring and assessement for over 20 years, largely in Hawaii but also in New Zealand, Iceland, the Antarctic, and other places. Most of this work has been funded by a number of national agencies, such as the NSF, NIH, Department of Energy, NASA, among others.

There are two related issues which I wish to address. The first is the proposed reauthorization of the Superfund which would consider "hazardous waste sites with contaminated ground water from the use of pesticides" no longer qualified for cleanup. And, second, should Hawaii's sites remain on the Superfund list even if pesticide-contaminated ground water sites are included in its reauthorization. It has been suggested that since Hawaii's contamination is less than that of other areas, our need for cleanup is less important.

My technical arguments for both issues, one less scientific than the other, are largely the same. First, the continguous mainland United States shares not only large land and air masses, but also their pollution. Only in Hawaii and perhaps a few remote areas in Alaska can the sources of pollution, as well as their sinks be identified within a single State jurisdiction. Unlike New York, Pennsylvania, New Jersey, Illinois, and others, where sources of pollution are often far removed from the areas of contamination there is ambiguity; however, there is no ambiguity as to source here in Hawaii. All of the pollution that is detected in Hawaii, is Hawaii's. From a very pragmatic viewpoint, to resolve the issues of responsibilities, jurisdictions, authority, et cetera, regarding the issues of pesticide-contaminated ground water, Hawaii is the ideal model.

But it is from a national perspective that a concern for clean water must be continually sustained. One need only recall the abysmal state of Lake Erie and the Gary-Hammond end of Lake Michigan to appreciate what early regional "cleanup" funds managed to do to revitalize them; the cost of cleanup will never become insignificant.

Obviously, the first thing required is legislation and enforcement to be developed so that contamination of our waters are at a minimum, but once serious contamination happens then rapid efforts should be made to cleanup the problem areas. The amount of revenue needed for the Superfund, if pesticide-contaminated ground water sites are included, will, without doubt be higher than if they were omitted. But what are the costs of these sites were they not to be included? What are risk assessments? What are the costs of two

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or three more cases of birth defects, cancer, infertility, reduced vitality, impaired physiological function, and a full array of diseases that are implicit with pesticide contamination. But there are only a few chances per 100,000 people, but what does this cost Hawaii's population of only 1 million, with its relatively low levels of polluted waters? We probably will have an increase over normal expectation of no more than a relative handful of cases. But I can assure you in the long run that funds will be requested in the future, of far greater magnitude, to help all those people and who will have become impacted physically and mentally because of the long term insidious effects of pesticide contamination. The frightening thing, is that we do not even know what the effects on humans will be of long term exposure to pesticides in our water and food. We have data on a great many unpleasant outcomes so that we can anticipate what might happen. But by the time we are able to see the impact on the population clearly the tragedy will already be at hand. It is like so many hazardous chemicals—by the time you can smell them it is already too late to run.

We have recently completed a survey of human mothers' milk here in Hawaii for organochlorine pesticides. Not one of the 40 mothers was free of the pesticides and some had alarmingly high levels. Their only sources are the air, the water, the food. What is the cost of this contamination?

Hawaii is largely agricultural rather than industrial; its population is relatively small and geographically isolated. And its hydrology is one of the best mapped in the world.

In spite of these mitigating factors, contaminated ground water is found here. If a polluted aquifer in our relatively pristine environment cannot be identified as to source, cleaned and restored, then how can this task be accomplished honestly and efficiently elsewhere in the United States. The continued inclusion of the pesticide-contaminated ground waters in the Superfund will not be cheap or simple, but it must be done for the health and well-being of the country, and the inclusion of Hawaii on the current priority list is justified nationally and locally.

Thank you.

Mr. HEFTEL. Thank you very much.

Do you think that we have failed to adequately protect ourselves in the way we have allowed the pesticides to be used and the standards we have used for preventing their use?

Ms. SIEGEL. No. But I think that very often the development of the standards and the action taken has been very long in coming.

It takes a long time to get pesticides on the market, but when the contaminations occur, there has not been the quick and ready action that one would like. I also think that it is better to err on the side of health and safety than to err on the side of other arguments.

And I think that we haven't always done that. One also doesn't want to stop pesticides entirely from being used. They are important in agriculture.

But two things that do work—one is enforcement, and one is education. And I think that we have been somewhat lax. The education has been somewhat less than it should be, as has the enforcement.

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It seems the very basis of what we need to deal with are baseline studies: What is an environment like before pesticides get to it? We are speaking of DDT in Hawaii that goes back to World War II days.

One is picking up pesticides in the Antarctic. We didn't do all our homework in Hawaii 20 or 30 years ago to find out really what the environment should have been like. But now Hawaii is one of the few places where we can still do something on determining the baselines in the environment.

Mr. HEFTEL. Are we doing our homework now before pesticides come on board?

Ms. SIEGEL. No, I don't think so. Everyone talks about risk assessments.

And the Federal Government should provide more information for determining standards. These are all guess limits at the moment.

Mr. HEFTEL. Well, it appears that the contamination threat that we are dealing with was produced by a failure to control what turned out to be pesticides that contaminated the environment.

And are we—have we stopped doing that?

Ms. SIEGEL. No, we have not stopped doing it. And also it was almost in a way predicted that ground water on the Schofield plateau would be contaminated from the years of agricultural use. The surprising thing was that we put in residents in an area that one might have predicted would be polluted.

But that is again a historic hindsight. And now we are putting filters on the water system, and I suspect as a scientist that is involved in this, that much of this is crisis management.

We wait until it reaches a threshold and then try to solve it as opposed to say if we do A, and B, and C, the will then reach a threshold, can we stop it earlier?

Mr. HEFTEL. You are also telling us that in Hawaii we could have predicted the contamination of the water in areas where we shouldn't have put housing until we could made it safe: Is that so.

Ms. SIEGEL. I think so.

Mr. HEFTEL. I thank you very much for those insights.

Mr. Gephardt?

Mr. GEPHARDT. Thank you for your good testimony.

Is there something unique about agriculture in Hawaii or a bit different than in other parts of the United States that causes the pesticide levels to be higher than in other places?

Ms. SIEGEL. There are subtle things. One is we have large monocultural crops. But it is also true in other places such as Iowa and other places.

Another thing is we have a year-round growing season which is somewhat different, and a very equitable temperature. Probably these things all put together made us somewhat unique.

So, we have some of the same problems, but they are just—a small bit of land, with a wide range of topography. We have no rivers so all of our water has to come from ground water or rainwater.

This is why water becomes a especially high priority. We can't buy it from the Colorado River. Without water we can't maintain our agriculture.

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Mr. GEPHARDT. The second question is, You indicated in your testimony you have done some studies or someone you know has done a survey on human mother's milk.

Ms. SIEGEL. We did that.

Mr. GEPHARDT. Was that done here?

Ms. SIEGEL. Yes.

Mr. GEPHARDT. And you found the contaminant levels to be high?

Ms. SIEGEL. Yes. Not in all people, though. You may recall we have had the heptachlor in the milk issue, and we started some 3 to 4 years ago monitoring mother's milk. And we have been monitoring the heptachlor which can be attributed to the drinking of milk.

But we are now following organochlorines in general in the milk samples. And some of the mothers are quite high. Some of the high levels are due to DDT and DOE, and we have not been using them for some time in Hawaii, and yet we still find those levels here.

Mr. GEPHARDT. Is there any evidence here or elsewhere that you are aware of, of the ill-effect of pesticide contamination in water, or are we just beginning to understand what the problems are?

Are we a long time away from finding that evidence?

Ms. SIEGEL. We are probably a long time away from finding that type of conclusive evidence.

One can do probability predicting or risk assessing, but this is like playing the odds at Las Vegas. But if you want hard data such as the concentration where 50 percent of the animals die—LD 50—you can do that in the laboratory with higher doses. We hope we don't have to do that we don't have to do too many of those types of experiments. We don't want LD 50's on humans.

Mr. HEFTEL. Excuse just one moment.

Dr. Norton is with us. He came only to answer questions and not to testify.

Would you like to join us, please?

Mr. NORTON. I have quite a few things to say now that I have heard the testimony.

Mr. HEFTEL. We invite you to sit down, and when Dr. Siegel finishes, we will invite you to testify.

Go ahead, Barbara.

Ms. SIEGEL. No, that is all right.

Mr. GEPHARDT. The last point is, are you satisfied that the filtration remedy is an effective one?

Ms. SIEGEL. We have checked on the filtration system and find it effective. And I can't give you the exact figure, something like 90 to 99 percent. We can argue if it is 100-percent effective.

Nothing will ever be. I think the public has a right to know how effective it is and to provide the most effective means possible. Let people have a choice. And it is quite effective.

Mr. GEPHARDT. Thank you very much.

Mr. HEFTEL. Thank you very much.

We now have Dr. Ted Norton, professor of pharmacology, University of Hawaii and he is now inspired to testify.

We are delighted to have you here and have your testimony or your observations.

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STATEMENT OF TED NORTON, PH.D., PROFESSOR OF PHARMACOLOGY, UNIVERSITY OF HAWAII

Mr. NORTON. I had better give a little of my background so you can understand where I am coming from.

I worked for Dow Chemical for 23 years. I came here in 1968, so I have been here 17 years now as a professor of pharmacology. I give lectures to the med students in pesticide toxicology and solvent toxicology. I give a graduate course in medicinal chemistry. When I was at Dow, I was director of their agriculture laboratory. I worked very closely with the people at Seal Beach, who developed ethylene dibromide and dibromochloroprane.

I would like to make a comment to Mr. Heftel.

It was not the Government's fault, and it was not the company's fault that it turned out that EDB and DBCP went 700 feet down and got into the water supply. Our analytical methods at the time these were developed and at the time that the labels were written were such that a part per million was nothing. Then they had a conference on Zero.

Carcinogenic tests came in later, and they are subject to considerable questioning. They are the best we have where we use extremely high doses over a long period of time, and then determine whether or not cancer develops in rodents. Then we extrapolate that to billion times lower levels, and then predict how many increased cancer deaths there will be for lifetime exposure.

This is the kind of data we are dealing with. There really is a tremendous error that is possible. It could be an error in the direction that there is more danger than we think, or it could be the other way. I just wanted to make clear it was not a matter of, in my opinion, any lack of good judgment on the part of, at the time, FDA or the chemical companies.

Dow got data before FDA required it, but the amount of data that was obtained from analytical systems were nowhere as sophisticated as they are now. So this is something that crept up on everybody. And when you talk about who should be taxed for this—I hate hidden taxes—I mean when you talk about taxing a barrel of oil, you are taxing the public, only you are doing it in a way that they don't know you are doing it. You don't think they know, but there are many of us who do know, and I think hidden taxes are terrible. You could tax alcohol. That does get the specific population that drinks. You tax pesticides, supposedly you tax by value of the pesticides solely. That cost goes to the farmer. That cost goes on to the people that eat food, which is everybody. So you end up taxing the public. That is my opinion in the area where I am not an expert at all. That involves philosophy.

So I would like to address the specific problem in Hawaii about these fumigants, because I am not sure you haven't gotten just slightly confused because you hear slightly different stories from the EPA and the people here. But nobody is too sure what hazards there are and so forth. This is my business—trying to estimate a hazard with extremely little information.

In the case of EDB or DBCP, those are both registered pesticides, they have gone through the extended long-term studies, and they have had the cancer studies, and there is a lot known about them.

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EPA has even gone so far as to say that the level that we set in the Governor's committee—by the way, that is another thing—the State hasn't just been sitting on this, you know. We are not waiting for the Federal Government to do something. I think the board of water supply has been fantastic in moving as fast as they have, and have come up with a proposition that looks like it is going to work and work well. They need some money.

Mr. HEFTEL. All you have to do is raise your taxes.

Mr. NORTON. All right, tell President Reagan that.

They went ahead and took the problem and did something about it. Now, I am sure that there are people in Mililani who think it has gone too slow, but I don't know how it could go much faster with what they had to work with. I think this is going to solve the problem of getting rid of these residues. By the way, these residues are going to be there for—my best estimate—I heard people say they have no idea. There is a fair idea from the concentrations as you go down in the well. To go 700 feet would take about 50 years in the case of EDB. And 1,2,3-trichloropropane, we can't tell because it is just starting to show up at 60 feet deep from an application of 7 years ago.

Mr. HEFTEL. Seven or seventy?

Mr. NORTON. Seven. The application. And it is just beginning to show a rise at the 60-foot level. So it is going to be a long time before that stuff is going to be out of there.

OK, what about the hazards? The EPA has said that at 20 parts per trillion EDB in the drinking water one would expect during a lifetime exposure to have 30 increased cancer deaths per million population.

Mr. GEPHARDT. And how many per billion?

Mr. NORTON. At 20 parts per trillion, which we set on the Governor's committee, as a level, we would propose as a standard—now it was never made official, but the water department and the health department, I think in good faith, said let's don't take chances, let's err on the side of safety. So they accepted it.

Now, in the case of DBCP, which is in Mililani water now, we are talking three increased deaths per million population lifetime exposure at 20 parts per trillion DBCP in the water. Now, they are hovering at DBCP levels somewhere in between 10 and 15, I guess sometimes at 20, on wells No. 1, and No. 3, in Mililani. So they are using water that is on the borderline, but that is extremely low risk.

I would like to make a comparison to show you what different parts of your Federal Government are doing about standards, health standards. If I may quote—this is my own calculation, but believe me, it is accurate. OK, we set the level for EDB at 20 parts per trillion in drinking water.

Mr. GEPHARDT. This is the State board?

Mr. NORTON. Yes.

Mr. HEFTEL. Twenty parts per trillion?

Mr. NORTON. Yes.

Now, OSHA just recently—you may have heard—EDB which is present in gasoline, and they are now cutting down the lead while also cutting down the EDB. But OSHA says in the workplace they are going to reduce what has been allowed—I think it was 1 part

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per million—down to 0.1 part per million. So this is an acceptable level for 8 hours exposure 5 days a week through your lifetime of work.

Using the OSHA standards I made the calculations of the inhalation, assuming equal efficiency absorption by the lungs and absorption form drinking water, and it can't be off more than 10 or 20 percent. The OSHA standard would allow intake of 138,240 times as much EDB as do our standards allow. And they are proud of this. They are talking about increased thousands of deaths per million population or increased cancer deaths per thousand rather than per million.

When you have hearings, ask these guys at OSHA how come their standards are so different from EPA. I don't understand it. A person working in the service station with present gasoline—this is going to be lowered eventually and completely eliminated—they are getting about the order of a thousand times as much EDB, the service station operators, as people drinking Mililani water. Now, they are drinking DBCP, which is supposed to be about 10 times as safe at that level. OK, that is just a comparison.

One thing that has hardly been talked about and which could mean more than anything else, is the 1,2,3-trichloropropane. Now, it was an impurity in the original DD, it was called. Now, they have purified brands, which is dichloropropene, vicaine. Not vicaine, excuse me, telone, it is called telone. That is what is being used now.

Mr. GEPHARDT. For pesticide?

Mr. NORTON. That is being used as a nematicide in the pineapple fields. Neither California nor our people here have been able to find this 1,3-dichloropropene. It is quite a bit more volatile than the impurity, 1,2,3-trichloropropane, which is probably the reason it has not been able to get down and not be found in the water.

Anyway, what do we know about 1,2,3-? It was an impurity in an agricultural chemical. Nobody worried about impurities until we found dioxin in a herbicide. The 1,2,3-trichloropropane. I searched the literature carefully, and there are a few Russian articles, and one article from the University of California in San Francisco, the medical school, that had a bearing on this. The work from the Soviet Union, we got some of the original papers, and they are horribly written. These are not referenced journals like those in the West. If we wrote a paper like that, it wouldn't be accepted. But in spite of that, there were several studies, inhalation studies, with 1,2,3-trichloropropane—we don't have anything on it. It is not a product, it is an impurity. Their data would indicate in the inhalation studies the same order of toxicity as EDB.

Now, in terms of mutagenicity, EDB is a known mutagen in both mice and rats. 1,2,3- has not been tested as a carcinogen. It was tested as a mutagen in a bacterial system, and it showed no mutagenicity until S-9, a liver fraction, was added to the bacteria. Then it was a potent mutagen.

This is all we know. I mean, we have the Russian data, and I don't know how good it is. I have been in the Soviet Union, and in their labs. They have very competent people. It might be perfectly good. But there is that, plus this, see, bacteria do not have what we call the P450 system, so that if it is a mutagen against bacteria, it

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means it is a primary mutagen. If you have to add this liver fraction, and make it more like a human being, then it is a secondary mutagen.

Now, what do we have in the way of trichloropropane in the water? We have 2,000 to 3,000 parts per trillion, not around 20 parts per trillion as with DBCP, and the people in Mililani are drinking this water, and I think that is why the water department has gone full speed ahead to do something about it. They don't know what the hazards are with 1,2,3. I don't either. But I am suspicious that it might be fairly potent. So I dont' like to hear this EPA guy say, you know, we have just a few parts per trillion. We have a few thousand parts per trillion of something that we don't know how——

Mr. HEFTEL. You are saying what we don't know about it may be more dangerous than what we do know about it?

Mr. NORTON. Well, what we do know would indicate that it could be dangerous.

Mr. HEFTEL. But what the EPA is treating is something we don't know about, that what they are not incorporating in their calculation could be more threatening than that which they are including in their calculations; is that correct?

Mr. NORTON. Exactly.

Mr. GEPHARDT. Why aren't we looking at that particular substance in the water?

Mr. NORTON. It has been looked at. There is a test that has just been started with 1,2,3-trichloropropane at Research Triangle, but it will be 2 years before we get the results of carcinogenicity. These are long-term tests.

Mr. GEPHARDT. And nobody has any anywhere?

Mr. HEFTEL. In other words, we wait years for results which may be damaging and we will then have suffered the damage while we are waiting for the information?

Mr. GEPHARDT. Can I ask you again the filtration question? Does filtration stop the problem of all of the substances or not?

Mr. NORTON. That was asked of Mr. Hayashida. I haven't seen the full data, but I understand that it will get it down below detectable levels. What we really need to know is how much below detectable levels. We don't know that, at least not yet. Now, as far as the chlorinated hydrocarbons are concerned, we are not worse off here than they are in the mainland. We were with heptachlor for a while. But as far as the major ones, we are below levels found in many of the mainland waters. I think you may have gotten the wrong impression from Barbara.

One other thing I would like to say about Hawaiian water. People have looked for chlorinated hydrocarbons in them, and they have found them at extremely low levels, below parts per trillion. There is an article by Art Bevenue and John Hyland around 1970–71. And the drinking water, the wells tested—I don't remember the details, but I think it is important that these were found—but extremely low levels.

What was interesting was that DDT was found at levels almost 10 times as high in rainwater as there was in our well water. That is how this stuff gets to the North Pole and South Pole and so forth. When it is sprayed in teeny, teeny particles, even vapors,

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they are all over the world. You are inhaling it all of the time. Even more after your house has been treated for termites. But there is nothing you can do about that, it is just all over, and we are going to find it in our water when we get accurate enough. In fact, it has been found at some parts per trillion.

Now, what is beautiful, if they had gone to this aeration system, which worried me because of the air supply, how it might be contaminated by dust around there. It would have to be all cleaned up. You wouldn't dare blow it through the water that you are doing to drink. But they went to the charcoal. These chlorinated hydrocarbons that we are going to find more accurately at the subpart per trillion levels, will be removed. In fact, it will take them out more so than these more volatile fumigants. It is a good system, too, and with the problems they are having in California and Florida and the South and Europe, I think all water supplies one day are going to have purification systems.

I am sorry, I have taken too much time. Thank you.

Mr. HEFTEL. We thank you very much.

Do you have any questions.

Mr. GEPHARDT. No, no questions.

Mr. HEFTEL. I would like to announce now the panel of Dr. Steve Montgomery, affiliate representative to National Wildlife Federation, Conservation Council for Hawaii; Mr. Jim Morrow, chairman, State Environmental Council; Dr. Art Mori, president, Life of the Land.

Following that, we will call Dr. Sheila Conant, president, Hawaii Audubon Society; and Mr. Sam Lee, chairman of the Mililani Neighborhood Board.

We will start with Mr. Morrow whose testimony we do have, and then we will have testimony from Dr. Mori and from Dr. Montgomery. And do identify yourselves by name.

STATEMENT OF JAMES W. MORROW, CHAIRMAN, ENVIRONMENTAL COUNCIL, STATE OF HAWAII

Mr. MORROW. I am James Morrow, chairman of the State Environmental Council, and on behalf of the council, I would like to thank Congressman Heftel and Congressman Gephardt for providing me with the opportunity to provide testimony on this very important issue.

Now, since it is getting late, and you do have a copy of our testimony, I will try to highlight a few points in it and make a few additional comments, again based on some of the things we have heard this morning.

Basically, there seems to be a great deal of uncertainty in this whole issue. We heard some of it this morning regarding such things as the source of some of these toxic substances. And we are not or cannot be certain whether they are the result of the proper and legal application of pesticides, or whether they are the result of spills or illegal dumping. We do know that they are getting in there, and that there are pesticides, but can't always be sure of the source.

That becomes important, of course, in terms of CERCLA application, since the legal use would not allow recovery costs. We also are

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not totally certain yet about the rate of penetration to the aquifer and what the future may hold in terms of types and quantities of contaminants in our limited ground water supplies. And certainly there is a great deal of uncertainty as to whether the State and county resources are going to be adequate for cleanup, particularly in the future.

In the latter part of last month, we found—our department of health—found some new contaminants that we hadn't run across before, trichloropropane and perchloroethylene. These are normally industrial solvents that are drycleaning agents and they are found in a number of wells. The highest concentration is through the parts per billion level, so it is quite a bit higher than the part per trillion that we are dealing with with some of the others. So again, up in central Oahu, up in the Schofield area.

So it is quite obvious that in addition to the toxic agents that we are dealing with now, there may well be new ones that we are going to run into in the future, and the source of these have yet to be determined. What we are quite concerned about is that the public is quite concerned about these and does not want these contaminants in their water supply.

Pesticides are clearly hazardous substances, and it seems to me a matter of semantics when we start talking about the various acts and the definitions of whether pesticides are or are not hazardous substances. It seems to me they are. When they appear in drinking water supplies, cleanup under CERCLA seems most appropriate. The proposed exclusion of pesticide contaminated sites from Superfund coverage seems inappropriate. The fact that pesticide feedstocks are already being taxed as a source of revenue for Superfund also makes such behavior improper. There is funding already being gathered from these feedstocks.

The vast extent of contaminated ground water across the Nation makes the associated cost of cleanup a valid concern. Maybe to include pesticide contamination of ground water under CERCLA may very well create a serious national problem, however, as in the case of all multifaceted problems, priorities must be set in order to make most effective use of limited resources. Now, in the case of toxic substances in the environment, these priorities must necessarily be based on risk assessments.

State and local governments may not have the necessary financial resources to effectively clean up hazardous wastes and will need Federal assistance. Such assistance may be made available from CERCLA based on the priority setting process.

We therefore wish to express our strong support for inclusion of pesticide contaminated sites within the coverage of CERCLA and perhaps primarily on the basis that there is really no other source of assistance to this time.

As Mr. Hedeman indicated that EPA is looking at a much more comprehensive or broader approach to the problem, and we certainly think that that should be pursued and pursued as soon as possible. But there is no telling how long that will take. Perhaps they will have it straightened out by the fall, but then it has got to go through a legislative process, and they want to amend the Safe Drinking Water Act and the Clean Water Act. These things are all going to take time.

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It does not seem totally inappropriate to include pesticide contamination within the jurisdiction of CERCLA. It is a hazardous waste cleanup statute and pesticides certainly are hazardous materials, and for the time being, unless something comes along in the near future, it seems an appropriate vehicle for dealing with the the problem. In fact, amendments to allow for recovery of the costs, might be an appropriate consideration.

As Mr. Hedeman indicated, the agency feels that it is quite appropriate to use funds to clean up, but the act specifically precludes recovery of those costs, and perhaps that should be looked at further.

So that is basically our council's feeling regarding the act in particular.

Some of the things that I heard this morning gave rise to some reaction. The comments that the problem was due to improved measurement technology, I think was inappropriate. The improved measurement technology, and the continuing improvement, is going to allow us to find these things. The real problem is that they got in there, and secondarily, the problem that we have now to face is whether they need to be taken out. We have no standards. The risk assessments haven't been done yet. So those things are things that for a future agenda need to be a very high priority item. State and local governments really need this help from the Federal level because they simply don't have the resources for the research needed to establish standards. It would be a lot easier if they had the standards set already.

Mr. HEFTEL. One thing we do know is that the cancer is working.

Mr. MORROW. Absolutely. The question is, which theory of of carcinogenesis do you subscribe to? Do you want the single hit theory or the dose-response theory? So it is an area that certainly needs attention.

I can't pass this opportunity without emphasizing something that I personally feel very strongly about, and I know the Environmental Council does, at the state level—prevention is what deserves critical attention, the fact that we are dealing with these problems. But since we do, it certainly does seem to——

Mr. HEFTEL. I can't help but wonder what we could have spent in prevention and what the percentage would have been of the cost we are now incurring, plus the damage we are suffering at the same time.

Mr. MORROW. Those of us who work professionally in the environmental health business have to deal with it all the time. Prevention is the focus of our business, what we have been trained to do. And yet we are always bucking the cost of it and putting it off until you have a crisis, as we do now, and it costs a lot more.

Mr. HEFTEL. And you have the consequence. This is just the cost.

Mr. MORROW. Unfortunately it continues.

The final point I would like to make is that since risk assessments are becoming and will continue to be a very important part of dealing with issues such as these, and particularly in a priority setting process, if we get our wells on that national priority list, there are going to have to be a lot of risk assessments done in terms of setting up that list. And my general feeling, or my perspective on how the public views risk assessments is that they

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don't understand them too well, and they don't necessarily appreciate them. If you tell them the risk is one in a million, or one in a hundred thousand, or as someone indicated before, or maybe a few hundred in a hundred thousand, or a few hundred in a million, even if it is one in a million, the public doesn't like it.

There is a public education need here. As I see it, we are progressing toward more and more use of risk assessment in decisionmaking. Those of you who have to deal with the public, and are elected by the public, are going to have to, you know, understand it, and your constitutents are going to have to understand it. They don't appreciate it. The scientists do, and you can set up in a nice numerical fashion, put it in a computer and crank out numbers and come up with decisions based on it, and it will be a nice methodical way of doing it. But it is not easy to sell to the general public or to make the general public understand and appreciate it.

Thank you for the opportunity to testify.

[The prepared statement follows:]

STATEMENT OF JAMES W. MORROW, CHAIRMAN, STATE OF HAWAII ENVIRONMENTAL COUNCIL

Congressman Heftel, Congressman Gephardt, I am James W. Morrow, Chairman of the State of Hawaii's Environmental Council. On behalf of the Council, I wish to thank you for providing us with this opportunity to present our views on Superfund coverage of pesticide contamination of groundwater.

BACKGROUND ON THE ENVIRONMENTAL COUNCIL

I would like to begin this testimony by offering the Committee a very brief history of the Environmental Council and its responsibilities. The Environmental Council was first established in 1975 under Chapter 341, Hawaii Revised Statutes. Its primary responsibilities under the law were to serve as a liaison between the public and state government and also to monitor and report on the progress of federal, state, and county agencies in meeting the State's environmental goals and policies. As you may be aware, Hawaii is the only state in the union having a State Plan which includes a broad spectrum of goals and objectives pertaining to health, environment, energy, economy and many other areas which affect the health and welfare of the people of Hawaii.

In 1984, the Environmental Council was reorganized and assumed the additional regulatory responsibility for the State's environmental impact statement system.

The Environmental Council also has a limited research function and has recently supported research to develop a data base on the use of pesticides in the state.

PESTICIDES AND OTHER TOXICS IN HAWAII

Because Hawaii's climate is ideal not only for tourists but also for a wide variety of insect and plant pests, it is not particularly surprising that we have historically had a very high rate of pesticide usage. Herbicides and insecticides have been widely used by both large sugar and pineapple plantations as well as small farmers. Considering this wide use and the persistence in the environment of some of these toxic chemicals, it is also not surprising that we would eventually find some of them in our food and water. In some cases, misuse of pesticides may also have been a factor in contamination.

In recent years, the insecticide heptachlor found its way into our local milk supply. A variety of other chlorinated and brominated hydrocarbons have been found in our groundwater. Included are the animal carcinogens ethylene dibromide (EDB) and dibromochloropropane (DBCP). Contamination of groundwater has generally been associated with pesticide use. In the case of EDB, which is also found as a low level additive to leaded gasoline, it has not been conclusively determined that contamination is due to its use as a soil fumigant.

The most recent contaminants found in Hawaii's groundwater include both tetrachloroethylene (commonly referred to as perchloroethylene, hence PCE) and trichloroethylene (TCE). These are most commonly used as industrial solvents and

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in the dry cleaning business. Both have been found to cause liver tumors in mice. The source of their presence in groundwater has not yet been determined.

Up to now, these toxic substances have been found at relatively low concentrations, i.e., less than 1 part per billion (ppb); thus, their potential hazard to public health is not of an acute nature but rather of a long-term, chronic nature.

SUPERFUND ASPECTS

It is our understanding that under the existing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), cleanup of contaminated groundwater where the contamination resulted from the legal application of pesticides is possible, but recovery of the costs is not. We are also aware that the Administration has proposed reauthorization of CERCLA with provisions narrowing its scope so that pesticide-contaminated sites would no longer be eligible for cleanup with Superfund monies.

This is clearly a matter of great concern to the citizens of Hawaii. As noted previously, a variety of hazardous substances, some clearly pesticide related, others not, have been found in a number of Hawaii's drinking water wells. We presently have six public water supply wells in the City and County of Honolulu proposed for inclusion on the National Priorities List (NPL) because of pesticide contamination. Three of these, however, are scheduled for cleanup by private companies with interests in the residential subdivisions served by the wells.

There is uncertainty about the source of some of these toxic substances. We cannot be certain whether they are the result of application of pesticides in accordance with federal label instructions or unlawful dumping or spilling.

In the case of EDB, we cannot be certain whether the source is entirely pesticides or also leakage from gasoline storage tanks.

In the case of recently found TCE and PCE, the source is also uncertain, although the most likely source is industrial spillage or dumping.

We are not certain about the rate of penetration to the aquifer and what the future may hold in terms of types and quantities of contaminants in our limited groundwater supply.

There is great uncertainty as to whether state and county resources will be adequate to cleanup contaminated water supplies in the future, particularly in light of the uncertainty about the extent and magnitude of such contamination.

What we are certain about is that the public does not want these contaminants in their water supply. Pesticides are clearly hazardous substances and when they appear in public drinking water supplies, cleanup under CERCLA seems most appropriate. The categorical exclusion of pesticide-contaminated sites from Superfund coverage seems most inappropriate. The fact that pesticide feedstocks are already being taxed as a source of revenue for the Superfund also makes such cleanup appear proper.

The possible vast extent of groundwater contamination across the nation makes the associated costs of cleanup a valid concern. As in the case of all multi-faceted problems, however, priorities for action must be established in order to make most effective use of limited resources. In the case of toxic substances in the environment, these priorities must be based on assessments of risk to the public.

State and local governments may not have the necessary financial resources to effectively clean up hazardous waste sites within their jurisdictions and will need federal assistance. Such assistance should be made available through CERCLA based on the aforementioned priority setting process.

We therefore wish to express our strong support for inclusion of pesticide-contaminated sites within the coverage of CERCLA and our strong opposition to its proposed preclusion as recommended by the Administration.

Thank you again for providing this opportunity for testimony.

Mr. HEFTEL. Dr. Montgomery.

STATEMENT OF STEVEN L. MONTGOMERY, VICE PRESIDENT, CONSERVATION COUNCIL FOR HAWAII

Mr. MONTGOMERY. Thank you. I am Steve Montgomery testifying on behalf of 500 members of the Conservation Council for Hawaii. We are a nonprofit organization with prime focus on activities involving restoration and conservation and wise use of Hawaii's natural resources and on the environmental health of Hawaii's resi-

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dents and wildlife habitats. We are an affiliate of the National Wildlife Federation. And I would like to point out that I have distributed copies of the informational poster that we published. Six thousand copies we distributed to schools are a donation to them. It focuses on wildlife that occurs in wetlands and focuses on the food chain aspects of how these chemicals that get in our water are bioaccumulated up the food chain until they ultimately get into man on the chain itself.

I would like to begin my comments with a quote: "We have thus far postponed disaster, but we have not preempted it. Indeed, recent signs have persuaded man that the time has come for detoxification on a global scale. I am convinced that only firm and fair regulation of industry can save our system from dissolution and preserve the faith of the people in representative government. We have the financial and technical wherewithal to cut pollution out drastically over a period of years."

This is written by William D. Ruckelshaus in 1971 in a book called "SOS, Save Our Earth, an Ecological Message for Everyone." They are words that we still are trying to measure up to. I give Mr. Ruckelshaus a lot of credit for taking on a real tough job. He came in after Anne Burford left EPA in shambles and pledged to try to restore it.

On behalf of all members and other members of the National Wildlife Federation around the country, we are grateful for the progress that he has made. I think he recognized, contrary to what Anne Burford had to say, we cannot do more with less in dealing with environmental problems. That was a fraud. No one accepted that. Unfortunately, we are trying to do a great job, the Reagan administration is trying to do the job without adequate resources. And I want to make two main points, and that is that we need to put more money into the Superfund, not the $5.1 billion or so that the Reagan administration is pushing for, but about $10 billion is the number—$5 billion versus $10 billion.

The Senate so far has only approved something over $7 billion, and perhaps your Congressmen can come up with a figure of $13 billion, they can come up with a compromise that would be right for what we need to get the job done.

Mr. HEFTEL. You have learned how we compromise, haven't you?

Mr. MONTGOMERY. Yes.

Furthermore, we need to expand the Superfund and expand the sources of funding not just by putting more tax money into it, but by perhaps putting some sort of waste management tax on people, on companies that make their living collecting and disposing of these wastes, because they can be passed on to the people that produce these wastes. Something like feedstock taxes gathers funds.

We also need to oppose the Reagan administration proposal which would delete, eliminate entirely, use of funds to restore damged natural resources. EDB isn't just a carcinogenic in people, it also would be so in fish. Other chemicals, many of them cause problems in wildlife which we consume.

Mr. Gephardt might be interested to learn that people eat raw crabs and raw fish in Hawaii, and when I lived as a prawn farm caretaker some years ago as a graduate student in Pearl Harbor,

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on the slopes of the Pearl Harbor aquifer, I, too, partook of raw crabs and cooked a lot of prawns and ate them, and I would hate to think of how much of this EDCP and whatnot they had inside of them. We need to remember that there are long-term effects that we are dealing with.

Let me quote from Rachel Carson, the person who is, more than anyone else, responsible for the launching of environmental ethics that we are grasping more and more: "For the compilation as a whole, we must be more concerned with the delayed effects of absorbing small amounts of pesticides that invisibly contaminate the world." She died herself of cancer.

You heard it said that there are very small amounts of—truly parts per trillion, parts per billion, in our water. And sometimes, it is used by the company that wants to continue employing these chemicals for pesticides rather than to search for alternative methods such as cultural methods or biological control methods of tests.

Well, I have a quotation from O.D. Haley, a man with the Oklahoma Wildlife Federation. He is the president of our sister organization. He said that the worn out argument that pesticides are diluted to such an extent that they are harmless is not accurately defining the fact. One part per billion sounds like a terribly small amount, but 1 part per billion means that there are about 100 million trillion molecules of a potential carcinogen in every liter of water. And remember, cancer can start from a single cell, and evidence suggests that single molecules may be enough to trigger it.

A liter, something slightly more than a quart, containing—when you measure parts per, a million trillion molecules times a hundred of carcinogens, that is a lot to take in. And when you look at it that way, we get a more realistic idea why people are coming down with birth defects or dying of cancers. So my main point is we need not only to increase the amount of funding for Superfund, but we also need to increase the priority with which we implement, the speed in which we implement.

Our group was one of the many that testified on the proposal to add these wells to the national priority list. And I compliment our distinguished civil servant for coming to Hawaii and being very frank with us that these were added to the list some weeks before the election. We voters would like to believed that the administration was trying to deal with this problem. Well, 12 months have passed, and there has been no finalization of that regulation.

How much longer must we wait? Was it a deception? Was it just to get our hopes up, to get our votes? Everyone has to answer that question for himself. But I am afraid the time has come for action. Let's get the money and put the money where the mouths are in this administration.

Thank you.

Mr. HEFTEL. Thank you.

[The prepared statement follows:]

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STATEMENT OF STEVEN L. MONTGOMERY, VICE PRESIDENT, CONSERVATION COUNCIL FOR HAWAII

PESTICIDES AND WATER: A QUESTION OF QUALITY

The Pearl Harbor aquifer is Hawaii's most productive and valuable water source. It stretches from the Schofield Plateau between the Wai'anae and Ko'olau mountains to Pearl Harbor, yielding 225 million gallons per day (MGD). Of this, 40 mgd are exported to Honolulu. Because withdrawal of additional groundwater may cause damage from saltwater intrusion, and in order to stabilize a longterm decline in water levels, the Board of Land and Natural Resources has set 225 mgd as the upper limit.

The aquifer underlies large plantations of pineapple and sugar cane, where hundreds of thousands of pounds of various pesticides have been applied through the decades. Because the soil and rock are several hundred feet thick, officials assumed the agricultural chemicals would not travel through the soil, or, if they did, would not penetrate to such a great depth.

Those erroneous assumptions led the U.S. Environmental Protection Agency to permit continued use of the rootworm killer, DBCP, in pineapple fields, even though it was banned everywhere else in 1980.

But in 1982, Mililani Well No. 5 was closed by the Health Department due to DBCP contamination and by mid-1983, three of five nearby wells had to be closed. Downslope at Waipahu, four wells in Waipahu were closed due to detection of EDB at levels believed to present a health hazard. EDB is one of the most toxic substances that has ever been used in general commerce.

While it was possible for the Board of Water Supply immediately to provide an alternate water source for Waipahu, Mililani had to be supplied first by large tanker wagons and later by a new water line opened at Kipapa School. It provides 2,000 gallons of drinking water per day to residents, who line up to fill their water containers.

In September, 1983, Mililani residents learned that relatively high levels of a pesticide contaminant, TCP (1-2-3 trichloropropane), were in their water. In October, the community collected over 6,000 names on petitions calling on the government to find a new permanent water source. The Governor promised them a new source of water, and a quick study of all possibilities has resulted in exploratory wells to be drilled east of Mililani at a cost of $2.5 million.

Unfortunately, TCP contamination is not confined to Mililani and has been detected in much lower levels in most of central Oahu's wells. The toxicity of the chemical is presently under study by federal researchers.

In the meantime, the Board of Water Supply is studying several methods to clean up the contaminated water, such as aeration and activated carbon filters. A decision is expected in May, 1984.

Concerns about pesticide residues come from their ability to cause cancer, birth defects, reproductive problems, and other toxic effects on laboratory animals. Scientists are especially concerned about the possible additive effects, or the combined toxicity of these contaminants. They note that O'ahu's population already may be a heightened risk of adverse health effects due to intake from 1980-82 of heptachlor epoxide in the Island's milk supply. For these reasons, scientists recommend that a comprehensive risk assessment be conducted of the population in the entire Pearl Harbor watershed. Reports of higher than average birth defects in this population, especially noted in Wahiawa Hospital, and low birth-weight babies for O'ahu would be examined. Such a health assessment would also study pesticide levels in women nursing babies.

Thus, the Conservation Council for Hawaii is actively supporting the Environmental Protection Agency's proposed permanent ban on EDB use in Hawaii. Mililani residents have joined CCH volunteers in this effort, and also have filed a class action law suit against certain manufacturers, testers, and users of the three soil fumigants, asking that they be responsible for the costs of cleanup and medical monitoring of residents. Fortunately, different pineapple cultivation methods, (to control nematodes) and chemicals which break down faster offer promising alternatives.

The story of water quality is vital to everyone, and only remedial and preventative actions of residents and our elected leaders will determine how tragic or how pleasant the next chapters are. Indeed, pure water is one of humankind's greatest needs, for which there is no substitute.

Mr. HEFTEL. Dr. Art Mori.

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STATEMENT OF ART MORI, PRESIDENT, LIFE OF THE LAND

Mr. MORI. My name is Art Mori, and I am testifying on behalf of Life of the Land, an environmental group founded in Hawaii in 1970.

Hawaii's ecology is a delicate and fragile thing. Unfortunately, its condition is not improving. The remaining indemic for flora and fauna we are fighting for survival. Native forests continue to be decimated. I might add almost parenthetically are jokingly being chipped away.

Native Hawaiians have higher incidents of major diseases than any ethnic groups in America, and Hawaii uses more pesticides per acre than any other State in the country.

Hawaii's water is a precious natural resource. It has been filtered through layers of rock and has been purified en route. Unfortunately, many pesticides, as we have recently come to find out, are also being carried into our water system. Many in the State believe that we are sitting on an ecological time bomb, that the recent appearance of pesticides may be just the beginning of our water pollution problems.

Faced with the State's—and here I would like to make an exception to some of the earlier speakers—faced with the State government's lack of expertise in monitoring pesticide pollution and reluctance to expose its extent, as documented in articles in science magazines, the Honolulu Star Bulletin, and a recent EPA report—who is indeed to protect and preserve our island environment?

I think recent actions by the State are really something that has happened through the efforts of organizations like EPA that really are dragging our State officials into this, I think somewhat reluctantly. We are a special and precious ecosystem that demands special consideration. There is, indeed, no other State which is a mid-island ecological island as we are. All levels of government, together with the entire citizenry, are obligated to preserve what we have here.

The facts are that six wells are contaminated on Oahu. The contamination certainly will not go away by itself. As the island continues to outstrip its caring capacity, what will the future of our water be? Immediate action is required to maintain what we have. The EPA can help by retaining the Oahu wells on the Superfund list, thereby helping to draw attention, much needed attention, to our ecological plight. if the EPA walks away from this issue, it will be all that much more difficult for environmental groups to pressure the State to do their job.

Mahalo for the invitation again.

Mr. HEFTEL. Thank you very much.

Mr. Gephardt, any questions?

Mr. GEPHARDT. I would just ask the first speaker, Mr. Morrow, is your concern about changing the law or changing the law according to the way the administration wants the law, taking groundwater contamination out of the Superfund as an official matter? If you had your way, you would continue to make it a subject of Superfund's attention? And do you feel that the 90/10 relationship is one that ought to be targeted at long-range problem solving?

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Mr. MORROW. Yes. Up to the point of 90/10. We didn't specifically address that, but we have no objection at this point, and we have no alternative to offer.

Mr. GEPHARDT. So you fear that here in Hawaii, if this problem is as bad as some think it is, the State simply is not going to be able to afford the kind of filtration systems that will be necessary to keep sufficient amounts of water?

Mr. MORROW. Yes. That is the uncertainty that concerns us, that the extent of the problem in the future may reach a point where State and local resources will not be adequate. And since there doesn't seem to be any alternative at this point, I think it should remain under CERCLA, and the proposed amendments by the administration should not be approved at this point.

Mr. GEPHARDT. I thank all of you for your testimony, and I appreciate what you have said. It has been very helpful to me. I parenthetically share the view that the administration's projected amounts for the Superfund are too low and have supported efforts to try to get them up a bit. And we will continue to make those efforts.

Mr. HEFTEL. Thank you, gentlemen. I think it is good for you to hear this kind of support from someone who isn't going to get anybody to vote for him in Hawaii, at least for Congress. I won't say anything else.

Mr. GEPHARDT. Dogcatcher.

Mr. HEFTEL. But there is a reason that Dick Gephardt is here. And his reason is that he understands the problem, and he is going to be enforcing it and trying to bring about the things that you are talking about. And though we are both Democrats, it isn't the case of Democrats and Republicans, it is a case of common cause, and we are amazed at some of the things that come from the administration, because if you listened carefully to Mr. Hedeman, he was really echoing the need for what we are talking about on the one hand, then somehow he is trying to tell us that he compromised his position with the request of the administration and had somehow made them merge in something that I don't think he could totally believe in.

So I think we do see the problem that you pose and hopefully we will have success. Thank you very much.

Our next group will be Sheila Conant. She is president of the Hawaii Audubon Society. We do have your testimony. And Mr. Sam S.H. Lee, who is chairman of the Mililani Neighborhood Board.

This should be very interesting to you, Dick, because this is the gentleman that represents the people who found out that they couldn't drink the water that they were drinking and how contaminated it was. People had to go and fetch their water, and all the things that you were alluding to. So, we are very much going to look forward to your observation.

I don't know how you ended up—they put you at the end of the list for whatever reason. And in some ways, you should have been at the top of the list at the start of the proceedings. I am sorry, but I focused on it after I got to the bottom. So since you didn't start, we will let you finish.

Dr. Conant, why don't you go ahead.

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STATEMENT OF SHEILA CONANT, PH.D., PRESIDENT, HAWAII AUDUBON SOCIETY

Ms. CONANT. You do have a copy of my written testimony, and I want to try to avoid repetition. But I do want to reaffirm some things that have been said.

First of all, we want to thank you for coming out here and for holding this hearing and for the concern that that demonstrates for this issue.

Hawaii Audubon Society has been concerned with pesticide problems, whether applications are accidental or intentional, for quite a few years. And this recent problem of ground water contamination really focuses our attention on it. And we do want to say as a bottomline that we support having our six sites listed on the national priorities list. We feel that that is essential to getting the cleanup that needs to take place. We didn't really estimate what the costs are going to be right now. And if we do find out that there are a lot of liability costs associated with the cleanup, I might must point out here a little analogy.

For example, you can come down with cancer. You don't come down with birth defects. You are born with them. We could have some very important liability problems to face here. So it is very important that we have Federal Government's help and involvement, I think, not only because Federal Government is in part responsible for the problem by approving the use of these pesticides in the first place, but also because the more people we get into it with, the more technological expertise as well as funding, the more likely we are to be able to solve the problem.

One thing that I do want to be able to say something about is the whole problem of pesticide monitoring in Hawaii. We haven't really talked about that very much. We have talked about the problem of ground water monitoring. And I do want to say we have heard a lot about figures bandied about here, and I don't mean that in a casual sense. We are talking about parts per trillion.

And I, as a citizen, would like to sort of have clarified whether or not our current monitoring that is being carried out by the board of water supply involves the use of equipment that is sensitive enough to detect these levels at parts per trillions. Do we have state-of-the-art equipment that is being used for monitoring? I think the public has a right to know. And that is a question I would just like to toss out. I don't know what the board of water supply is using, what the ability of that equipment is.

Along those same lines, with regard to monitoring, I also want to raise the whole question of application of pesticides in the first place. And here are talking really about the State Department of Agriculture or the State Department of Health or the board of water supply.

There are hundreds and hundreds, if not thousands, of permits and licenses that are given out to apply pesticides. And I have very serious doubts about the effectiveness of the programs we have to enforce the regulations to see that people who do have licenses to apply pesticides are doing it properly, that they are storing those pesticides in proper containers, and that those pesticides were being properly disposed of if they are not being used. And that is

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an area of the problem that nobody has really mentioned this morning and something that maybe isn't really relevant to Superfund. But since we are talking about all these problems and monitoring, I want to bring that up as a concern, and I would like to see some improvement in the State department of agriculture's program for monitoring and regulating the use and application of pesticides. Let's not wait until they get into the ground water, and deal with the problem at that point.

I think actually the only other thing I want to say is that we don't really expect that the Federal Government ought to bear all of the costs of cleanup here, and we don't mean to state that by recommending that these six sites be listed on the national priority list. We do expect that the State of Hawaii is going to share the cost and the manufacturers are gong to share the cost. There is no way of getting around that. We don't really have the technical expertise to recommend what levels of involvement each of these agencies ought to have, particularly at this point when we really can't determine who is responsible for application, who is responsible for monitoring, and how to deal with these problems.

So I think that really concludes my testimony. I would be happy to answer any questions.

Mr. HEFTEL. Why don't you also for the record identify yourself in your professional capacity.

Ms. CONANT. All right. I am Sheila Conant. I am associate professor and chair of the Department of General Science at the University of Hawaii. And my research specialty is endangered birds and native Hawaiian ecosystems.

Mr. HEFTEL. Thank you very much, Dr. Conant.

[The prepared statement follows:]

STATEMENT OF SHEILA CONANT, PH.D., PRESIDENT, HAWAII AUDUBON SOCIETY

The Hawaii Audubon Society thanks you for the invitation to present testimony on Superfund and pesticide contamination in groundwater in Hawaii. We have been extremely concerned about the problems associated with the uses of pesticides, legal and illegal, accidental and intentional, for some years (see attached article that appeared on a 1983 poster co-sponsored by the Hawaii Audubon Society). The recent public attention that has been drawn to the issue due to some acute problems with groundwater contamination have prompted our involvement in a number of ways, and we are pleased to have another opportunity to contribute to discussions of the issues that will be considered here today.

We strongly urge that the six sites proposed for listing on the National Priorities List for cleanup of pesticide contamination in groundwater be officially approved for addition to the list. At present the actual costs for the clean-up are difficult, at best, to estimate. If the contamination is later revealed, through appropriate research, to have actually caused human health problems, the "costs" in human suffering and the extent of liability for those costs could be staggering. An efficient and quick cleanup is essential, and if such clean-up proves to be very expensive, Hawaii State resources could prove inadequate. We must act to seek help while it is available.

It has become increasingly clear that the Hawaii State Department of Agriculture is inadequately staffed and funded to carry out a realistic and effective program for regulation of pesticide use, including education, inspection and enforcement. These problems may or may not have played some role in the occurrence and build-up of pesticide contamination in our groundwater systems, but they seem likely to contribute to similar incidents in the future, especially in areas where agricultural uses of pesticides are heavy. To add the burden of major clean-up of demonstrated contamination to an already beleaguered pesticide regulation program is not only unrealistic, but also may constitute a very real threat to human health and welfare and the conservation of Hawaii's unique ecosystems. The visitor industry, one of the cor-

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nerstones of the Hawaiian economy, may also be threatened by, if you will, "poisons in paradise."

Sources have informed our Hawaii Audubon Society Conservation Committee that the Hawaii Visitor's Bureau and other State agencies are reluctant to recommend listing any Hawaii Sites on the National Priorities List for cleanup, possibly because such "bad press" may depress visitation rates. If this is indeed the case, it is certainly a short-sighted position to take. Surely the very real fact of groundwater contamination is a much greater threat to our visitor industry than the listing and eventual clean-up of sites could ever be, even if there is some negative, albeit factual, coverage of our unfortunate problems.

Hawaii Audubon Society does not advocate that all the costs of clean-up be borne by parties other than the State of Hawaii itself. We expect that the State, which was responsible for monitoring groundwater contamination in the first place, will bear some of the costs. Our first concern, however, is that the people, wildlife and plants of Hawaii be protected from serious life and health threatening contaminants. Clean-up of groundwater and the subsequent implementation of an effective and efficient regulatory system to prevent future problems must begin immediately, and Hawaii Audubon Society feels that federal assistance is urgently needed.

Mr. HEFTEL. Mr. Lee.

STATEMENT OF SAMUEL S.H. LEE, MILILANI/WAIPIO/ MELEMANU NEIGHBORHOOD BOARD

Mr. LEE. Thank you, Representative Heftel. My name is Samuel S.H. Lee. I am the chair of the Mililani/Waipio/Melemanu Neighborhood Board.

For Representative Gephardt's information, the city and county of Honolulu is divided into 33 neighborhoods. And Mililani is one of these neighborhoods. It includes Waipio and Melemanu. We have a population of almost 30,000 people. We have two house districts in the State legislature, and we also share two congressional districts. One-third of our population is under Congressional District No. 1 of which Mr. Heftel is the incumbent. The rest is under the Second Congressional District.

We are highly politically aware and a civic motivated community. And this is the reason why our board has taken a fairly leading role in the discovery and in the solution of the water contamination problem.

My testimony today is not specifically cleared by the board. I first read about it in the newspaper on Wednesday evening. I am speaking personally. But I will be doing so in accordance with the positions of the neighborhood board.

You have my prepared statement. I submit two neighborhood board letters, one to the EPA regional administrator supporting the inclusion of the wells in the Superfund, and a letter dated July 9, 1984, which is a joint petition with the Waipahu Community Association to declare the Pearl Harbor Aquifer as the sole source aquifer for central Oahu and a principal aquifer for the city of Honolulu. Both of these places have a population of 500,000 people.

Our position from the very beginning has been to include the Central Oahu wells in the Superfund. Indeed, when we conducted a petition drive in October 1983, 3 months after the discovery of the contamination, we petitioned for an emergency declaration by the mayor in order that $3 million can be released from the community development block grant as to insure a speedy cleanup of the water. That petition was signed by 6,220 people, almost as many households as there are in Mililani.

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Instead the administration opted for a solution requiring that those responsible for the problem pay for it. What this meant was that Castle & Cooke—its Dole Pineapple Co., was the sole fumigant, its land developer, the Mililani Town, Inc., was the one that then made the business decision to pay for the filter system. But in actuality, gentlemen, the ones that would pay for it would be the future homebuyers of Mililani Town, Inc., houses. And that is where the high cost of housing comes in. And these are the people who do not live in Mililani, who only buy houses there, and they are going to pay for it. And we who are early residents had nothing to do with it, of course, with pollution. We do not pay for it in that respect.

But somehow there must be a more equitable sharing of burdens. Now, in our letter dated July 6, we supported the inclusion of the wells in the Superfund. We made a very telling point which I would like to repeat despite the lateness of the hour.

We live on an island in the middle of the Pacific. There are no other alternatives except seawater. No matter how you slice it, the whole island is an aquifer, and you have also heard how serious the problem is in Maui.

The second point I would like to remind the EPA representatives, if they are still in the room, is that EPA had earlier canceled registration and banned the use of this DBCP throughout the mainland of the United States but gave an exception to Hawaii because of the peculiar geologic formation of soil which would prevent the contamination of ground water. Instead what we find is that the central Oahu wells are contaminated. The EPA cannot escape its responsibility for its part in this episode.

Now we come to the central issue which you have brought before us. I think it is not only a question of funds paying for it, because practically speaking, in Oahu the Federal Government would likely not share in the cost of the cleanup. What we are looking for is leadership from the Federal Government, what a previous speaker has put forth, that we must have it on the front burner so we do not forget about and then cover it up. The point is that if the EPA had not asked the State of Hawaii in the summer of 1983 to test the wells for ethylene dibromide, the contamination would not have been revealed, and we would have gone on drinking that water. And, frankly, gentlemen, speaking as a private citizen, we don't like contaminants in the water, and we don't like people who tell us we should like it. Because the politicians found out what happened at the last election.

Now, the real issue is that the wells have to be cleaned up, and EPA must ensure that this is done expeditiously. It must take the leading role in monitoring and seeing that it is done. Finally, the EPA must take preventative action against future contamination in exactly the same spirit and intent which the Hawaii State Department of Agriculture denied Maui Pine's recent petition for an exemption for DBCP.

Jack Suwa said he did it in order to prevent contamination. That is reasonable and the only ground for the action. And, therefore, I would like to call on EPA to declare the Pearl Harbor Aquifer a sole source aquifer as the Waipahu Community Association and the

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Mililani/Waipio/Melemanu Neighborhood Board had jointly petitioned back on July 9, 1984. Thank you.

[The prepared statement follows:]

STATEMENT OF SAMUEL S.H. LEE, CHAIRMAN, MILILANI/WAIPIO/MELEMANU NEIGHBORHOOD BOARD

My name is Samuel S. H. Lee. I live at 95-170 Newe Place, Mililani 96789.

I am the Chair of the Mililani/Waipio/Melemanu Neighborhood Board. My testimony today has not been specifically authorized or cleared by the Board. I am speaking personally, but I will be doing so in accordance with positions adopted by the Board.

In this respect, I submit two letters approved by the Board—a letter dated July 6, 1984 to the EPA Regional Administrator regarding the inclusion of Central Oahu wells in the Superfund, and a letter dated July 9, 1984 which is a joint petition with the Waipahu Community Association to declare the Pearl Harbor Aquifer the sole source aquifer for Central Oahu and a principal aquifer for the city of Honolulu.

In our letter of July 6, 1984, we said—

Regarding the examination of the Central Oahu wells under the "Superfund" program, please do consider and give highest priority to this factor—we live on an island in the middle of the Pacific Ocean. There are no other alternatives except sea water. The severity of the contamination should not simply be compared with other sites on the mainland where alternatives are readily available.

I would like to point out that the EPA had earlier given Hawaii an exemption from the ban on DBCP on the ground that the DBCP would not contaminate our water supply. The EPA had banned the use of DBCP as a sole fumigant throughout the mainland on that very ground. We now find that the Central Oahu wells are contaminated with DBCP. The EPA cannot escape its responsibility.

I believe that the EPA has the paramount role to ensure that the contaminated wells be cleaned up, the Central Oahu wells should be on the Superfund list, and the cause or causes of contamination be investigated with a view towards remedial and preventive action.

The issue is not whether federal funds be expended for the clean-up. The real issue is that the wells be cleaned up, and the EPA must ensure that this is done expeditiously and that those responsible for the contamination bear the costs of the clean-up.

Finally, the EPA must take preventive action against future contamination, in exactly the spirit and intent which the Hawaii State Department of Agriculture denied Maui Pine's recent petition for another exemption for DBCP. I thus call on the EPA to declare the Pearl Harbor Aquifer a sole source aquifer as the Waipahu Community Association and the Mililani/Waipio/Melemanu Neighborhood Board had jointly petitioned on July 9, 1984.

Thank you.

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EPA

MILILANI/WAIPIO/MELEMANU NEIGHBORHOOD BOARD NO. 25
c/o STATE SAVINGS
MILILANI VILLAGE CENTER NORTH
MILILANI, HAWAII 96789

July 6, 1984

Ms. Judith E. Ayres
Regional Administrator
EPA
215 Fremont Street
San Francisco, CA 94105

Dear Ms. Ayres:

Thank you for your letter of June 26, 1984, and thank you for looking into our serious concerns arising out of the pesticide contamination of our drinking water.

Regarding the examination of the Central Oahu wells under the "Superfund" Program, please do consider and give highest priority to this factor--we live on an island in the middle of the Pacific Ocean. There are no other alternatives except sea water. The severity of contamination should not simply be compared with other sites on the mainland where alternatives are readily available.

We deeply appreciate the EPA looking after our environment and the future of our children. I also look forward to meeting with you again soon.

Singerely,

Samuel S.H. Lee
Chair

ATTACHMENT 34

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(WATER. (RELATED)

"REPRESENTING ALL THE PEOPLE OF WA. HU"

Waipahu Community Association AND* *

HONOLULU FEDERAL SAVINGS AND LOAN BUILDING
94-229 WAIPAHU DEPOT STREET
WAIPAHU, HAWAII 96797

TELEPHONE 677-4950

* *MILILANI/WAIPIO/MELEMANU NEIGHBORHOOD BOARD NO. 25

July 9, 1984

William D. Ruckelshaus
Administrator
Environmental Protection Agency
401 M. Street S. W.
Washington DC 20460

Pursuant to 40 CFR 148, the Waipahu Community Association, the Mililani/Waipio/Melemanu Neighborhood Board No. 25, and Samuel S. H. Lee, a resident of Mililani, submit this petition requesting the Administrator of the Environmental Protection Agency to determine that the Pearl Harbor Aquifer is sole source aquifer for Central Oahu with 145,000 population and is a principal source aquifer for Honolulu proper with 365,000 population.

This petition includes the following information required under 40 CFR 148.10.

A) Petitioners:

Waipahu Community Association, Honolulu Federal Savings & Loan Bldg., 94-229 Waipahu Depot Road, #206, Waipahu, Hawaii 96797. Telephone: (808) 677-4950.

Mililani/Waipio/Melemanu Neighborhood Board No. 25, c/o State Savings, Village C enter North, Mililani, Hawaii 96789. Telephone:. (808) 623-6707.

Samuel S. H. Lee, 95-170 Neve Place, Mililani, Hawaii 96789. Telephone: (808) 623-6707.

B) The first mentioned petitioner represents the 29,645 residents of Waipahu whose wells have been contaminated by EDB and were closed in July 1983. The second mentioned petitioner represents the 24,164 residents of Mililani whose wells are contaminated by DBCP, Trichloropropane, and probably EDB, and all of which except for two are closed. The third mentioned petitioner has four young children who have been exposed to these contaminants since moving to Mililani in 1981.

ATTACHMENT 35 (a)

COMPRISING OF:
Gentry Waipio Community Association, D.O.E. - Leeward District, Filipino Community Association, Friends of Waipahu Cultural Garden Park, Harbor View Neighborhood Association, Honowai Elementary P.T.A., Leeward Community College, Oahu Sugar Company, Robinson Heights Association, Waikeni Neighborhood Association, Waipahu Business Association, Waipahu Elementary School P.T.A., Waipahu Jackrabbits, Waipahu Neighborhood Improvement Association, Waipahu Recreation Advisory Council

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C) EDB is a known carcinogen and is extremely toxic. It is also mutagenic and has reproductive effects. Both are acutely toxic. In other words, both are poisonous and causes severe general toxic changes in major organs, resulting in death. These findings are based not only on oral ingestion by animals but also on actual cases involving human beings.

D) The petitioners also furnish the following pertinent information:

1) The boundaries of the Pearl Harbor Aquifer have been determined to be the judicial district boundaries of the combined Ewa and Wahiawa Districts (see enclosure #1). Briefly, the Pearl Harbor Aquifer is in Central Oahu between the Koolau and Waianae ranges and runs from the Schofield High Level Water Body in the North to Red Hill, Pearl Harbor and the southern part of the Waianae Coast in the south.

2) The population living on top of the Pearl Harbor Aquifer receive all their water from that aquifer. The Pearl Harbor Aquifer also supplies half of the water of Honolulu city.

3) Alternative sources of drinking water - none. The Pearl Harbor Aquifer exports 40 mgd to Honolulu and 5 mgd to Waianae.

4) The recharge zone is the Pearl Harbor Aquifer basin itself. See enclosure #2 and item #5 below.

5) Recharge sources for the Pearl Harbor Aquifer -

Natural Recharge from Rainfall	210 mgd
Honolulu sub-surface flow	15 mgd
Irrigation return	
In-Basin	30 mgd
Waiahole Ditch	15 mgd
	270 mgd

6) Project which might contaminate the aquifer include highways and sewage plants.

7) Water systems utilizing water from the pearl Harbor Aquifer are as follows:

Water Systems	Population Served
Crestview/Waipio Hts.	3,541
Waipahu	29,645
Mililani	24,164
Pearl Harbor	65,740
Ewa	21,900

ATT. 35 (b)

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In addition, 40 mgd are exported to Honolulu (365,000) population and 5 mgd to Waianae (29,000) population. At present, treatment of the water is limited only to chlorination when necessary.

8) Alternative sources of drinking water: None. The Pearl Harbor Aquifer is an exporter of water.

E) Enclosure #1 is a map showing the location and boundaries of the Pearl Harbor Aquifer. Enclosure #2 is a map showing the location and boundaries of the recharge zone and the sources of recharge.

The petitioners respectfully request the Administrator to determine under Section 1424 (e) of the Safe Drinking Water Act that the Pearl Harbor Aquifer is the sole drinking water source for Central Oahu and is also a principal source for the city of Honolulu. This determination will permit review of federal financial assisted projects to assure that they will not contaminate the aquifer.

Respectfully submitted:

Clarence K. Nishihara, President
WAIPAHU COMMUNITY ASSOCIATION

Samuel S.H. Lee, Chair
MILILANI/WAIPIO/MELEMANU NEIGHBORHOOD BOARD NO. 25

Samuel S.H. Lee
Individual Petitioner

cc: Ms. Judith E. Ayres
Regional Administrator
215 Fremont Street
San Francisco, CA 94105

Ms. Vicki Tsuhako
Pacific Islands Contact Office
U.S. Environmental Protection Agency
P.O. Box 50003
Honolulu, HI 96850

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Figure 1. Pearl Harbor Ground Water Control Area (GWCA), Showing Hydrologic Boundaries Considered by the Committee

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Figure 3. Recharge to the Pearl Harbor GWCA, Derived from Inflow Method

ATT. 35 (c)

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Mr. HEFTEL. Thank you both very much.

Mr. Lee, as a citizen who thought that the government from the Federal to the State to the local levels used judgment in the way that the water was tested, the way that pesticides were used, did you feel a sense of disappointment when you realized that your water was contaminated that you were drinking?

Mr. LEE. I think I have to be practical, objective, and reasonable. At this time when such pesticides were allowed to be used, the economic arguments were much more prevalent than they are today. We have seen a shifting in the attitudes just as much as we have seen the view toward cigarette smoking has changed drastically in our lifetime. All errors and the omissions and the commissions taken together, I would personally say that I am satisfied with the action of the Federal Government, with the State Government, with the city and county board of water supply.

The point is that the contamination was discoverd. Remedial steps were taken. The city and the State were courageous enough to shut down wells despite the "relatively small or minute quantities of contamination." You have heard testimony. It is better to be safe than to be sorry. And they did the right thing. The State and the city have set standards which the Nation should be very proud of. Hawaii is taking the lead role in this. And in a few more months in October, although that might be a long time for my fellow residents in Mililani, Mililani will have its filter system so that the water would not contain contaminants as far as they can detect it at this moment.

Mr. HEFTEL. In the absence of filtered systems, do you think that the EPA has not been rigid enough in allowing exceptions for the use of pesticides such as heard in Hawaii?

Mr. LEE. Let me say very frankly I think EPA erred in this respect because even a layman like myself would say that geologic formation of character of Hawaiian soil would be more conducive to the chemicals trickling down. But the real principle is if a chemical is bad in the mainland, if it is not good for the people in the mainland, it is also not good for us people here in Hawaii. I think that is a very simple universal principle which the Federal Government ought to apply.

Mr. HEFTEL. I think we have to make note of this aspect of the testimony because whether there is a serious question as to what the validity was and the basis was for the EPA's decision to grant the exemption for a pesticide that was not permissible on the Mainland, U.S.A., and what they determined to be the differences here that would allow its use, and were those economic rather than geologic. I don't know the answer to that. But I do believe that that is something that I have to focus on so that the EPA would not be inclined to do that again. Because I don't think that any of us want to see those kinds of exceptions granted.

And I would like to have our team colleagues, as we come to the end of our hearing, both address any questions and hear summary remarks because I know what he has to do on his schedule this afternoon. So I am going to allow him to finish up, and then depart. Then I will do whatever I deem as a necessary conclusion.

Mr. GEPHARDT. Thank you, Cec. And thank both of you for your excellent testimony.

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I would simply like to ask Mr. Lee what condition is the neighborhood now in as to water? Are you getting water in a normal way from other wells, or are some of your people hauling water for drinking?

Mr. LEE. Mr. Hayashida has explained the situation. There are four spigots from a line that runs from a neighboring town called Wahiawa. That is 3 miles away. Two thousand gallons are drawn a day. And if, say, that each person draws 2 or 4 gallons a day, it is anywhere from 500 people or more. Then there are water wagons at the three elementary schools and one high school. Some people go to watering wagons. Most people go to the spigots from the Hawaii lines. The two wells are still operating in the Mililani area basically because, as Mr. Hayashida explained, Mililani has a self contained water system. You can't shut them down.

And, of course, 90 to 95 percent of the water is used for nonpotable purposes. From my own empirical observations, basically people with children who do not wish to burden their children with an unknown danger, and those are the ones that go to the spigots to get the water form the Wahiawa line.

Mr. GEPHARDT. This has been going on for about a year and a half?

Mr. LEE. Since November 1, 1983.

Mr. GEPHARDT. And the filtering systems that are being put in are being paid for by the private company, but they intend to put the cost on the homes that have not yet been built or sold in the area; is that correct?

Mr. LEE. Well, the second part of your statement I cannot state for certain. They will have to answer that. But my supposition is that the money has to come from somewhere, and they make the money by selling homes.

Mr. GEPHARDT. And you are not being asked to kick in money to put in the filter system?

Mr. LEE. The long time residents that have been there have not been asked.

Mr. GEPHARDT. To your knowledge, the city is not paying part of the cost of that system?

Mr. LEE. The city bears certain administrative costs. For example, when they set up the spigots from the Wahiawa line, or when they conduct the experiments and things, Mr. Hayashida himself has stated that the Waipahu wells would be cleaned up at the expense of the city. I think what I would like to leave you with is that there should be more of an equitable sense of sharing the burden. And above all, I think it will be unfair for the consumers to be paying for it, the consumers of water.

Certainly, maybe the consumers of food, drink, pineapple, whatever it is, because agriculture in the United States has flourished because of cheap or relatively economically good prices for certain products including pesticides and fertilizers. And maybe the time to change that has come.

Mr. GEPHARDT. The last question has to do with this decision you said that EPA made to grant an exception from the ban on DBCP on the ground that it would not contaminate the water supply. When was that exemption granted? Do you know?

Mr. LEE. I think it was in 1978.

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Mr. HEFTEL. It was in the 1970's, Dick. I don't remember exactly.

Mr. LEE. 1978.

Mr. GEPHARDT. Is it still in effect?

Mr. LEE. No. It was canceled in September 1983.

Mr. GEPHARDT. OK. Thank you both for your testimony. I will have to depart right now, but Representative Heftel will have some questions. Obviously you want to close the meeting.

Let me just thank everyone who testified and thank all of you who attended for having this hearing, and it has been a great honor to be here. I have expanded my knowledge a good deal about this issue. It will be very helpful to me in being an active participant in the committee working on the extension of Superfund. I really have appreciated all that I have learned. And I last want to commend my colleague, Representative Heftel, for his asking me to come here, and mostly for his interest in you and in his district and in his work. He is an immensely gifted Member of Congress. And I am honored to be here with him.

Mr. HEFTEL. Mr. Gephardt, thank you very much. I thank both of you.

I don't think I have any additional questions. I do think that the summary is almost contained in that which has been said. I think that it is important perhaps to just emphasize those portions as we do close. I think it is first and foremost for Hawaii to realize that somehow government granted an exemption for a pesticide that had been banned on the Mainland, U.S.A., and yet it was used for a period of some 5 years on these islands. And I think we have to find out why that occurred. And I don't think we can just simply go forward without going backward first to say how and why that occurred.

Were there public hearings? How were the Members of Congress informed so that they could participate in that decision? What was done publicly in Hawaii for the people to participate in that decision? And those are concerns that we have to specify as a product of this hearing in the things that I think I must do as we go forward. We simply must know how and why it occurred, because whatever allowed it to happen must be remedied so it can't happen again.

I see second where the EPA made a decision that I think created a contamination and a risk for the people, and this is an example. I think Federal Government has an obligation to rectify that which I believe they caused. So, once again, we have to ask them to be accountable.

Third, in the overall contamination of ground water wells, I think that the problem is going to be very extensive. I think that we have barely revealed the total scope of the problem and that we will probably have to have another formula going forward other than the 90/10. I think the Federal Government will simply say it doesn't have the capacity, and may, in fact, really not have the capacity to do all of what is needed on the 90/10 formula.

On the other hand, I don't think the local communities and the States can do it on a 100-percent formula that ignores the State-Federal responsibility. And in that respect, I think there is going to be a need for a formula and an approach that varies from that which we have in place today as we address the problem of ground

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water contamination. Because what the administration really wanted to do is say except where we think there is an eminent health hazard that can cause an immediate health problem, we are going to leave it alone and let the States and cities take care of it. And I don't think that that is an adequate approach.

So I think we are going to have to compromise where we address this problem differently than it has been addressed before and in which it has got at least a 50/50 split between Superfund and the local communities. I don't think we want to set up another fund resort. I think we want to do it right out of Superfund. So this will have to carry forward as we go forward legislatively.

That is why it was important that Mr. Gephardt was with us today. It has got to be considered as more than just a Hawaii problem. And because of the incredibly devastating experience outside of St. Louis that he lived through, he is in a position to understand why as a country this can crop up anywhere.

And so I think we have learned a lot, and we have gained a lot for being here today. I thank you for having stayed for the entire hearing, and I wish you all very well as I depart for Washington, which is what I am about to do in the next day, and kind of wish I was staying here another week. Thank you all very much.

[Whereupon, the committee was adjourned subject to call of the Chair.]

[The following was submitted for the record:]

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CASTLE & COOKE, INC.,
San Francisco, CA, May 24, 1985.

JOSEPH K. DOWLEY, Esq.,
Chief Counsel, Committee on Ways and Means, U.S. House of Representatives, Washington, DC.

DEAR MR. DOWLEY: This letter is in reply to your's of May 16, 1985 to Mr. Wesley J. Smith and Dr. Anthony Hepton of Castle & Cooke, Dole Hawaii Division, with respect to the Committee's invitation to testify at hearings to be held in Honolulu on May 31 on the subject of groundwater contamination and tax aspects of Superfund.

Unfortunately, neither Mr. Smith nor Dr. Hepton will be able to attend the hearings. Mr. Smith has previous business commitments on the mainland, and Dr. Hepton is expected to be deposed that week in connection with state court litigation.

Castle & Cooke, of course, shares the Committee's concern over the issue of groundwater contamination and the health, welfare and environment of the people of the State of Hawaii. Because of this concern and commitment, Castle & Cooke has actively cooperated with the State Department of Health and the County of Oahu Board of Water Supply in seeking to define the nature and extent of the problem as well as implementing an effective, economically feasible remedial scheme. To date, the Company has committed over $2,770,000 in interim and long-term remedial funds, without threat of legal compulsion. A permanent activated carbon filtration treatment system is scheduled to go on line at Mililani Town in October of this year. When operational, the treatment system will remove the contaminants of concern to below detection level with the best available treatment technology.

Rather than go into further detail in this letter, I am enclosing for the Committee's consideration and for the hearing record Castle & Cooke's December 13, 1984 Comments on EPA's proposal to add to the CERCLA National Priorities List the six well sites located on Oahu. I believe these comments address the concerns raised by the Committee in the press release forwarded by you to Mr. Smith, and fairly represent the Company's views on the subject.

If members of the Committee or their staff desire any further information, please don't hesitate to call on me. Once again, please accept my sincere regrets on behalf of Mr. Smith and Dr. Hepton.

Sincerely,

ROBERT D. WYATT,
Director of Government Relations.

Enclosures.

CASTLE & COOKE, INC.,
Honolulu, HI, December 26, 1984.

Mr. RUSSELL H. WYER,
Director, Hazardous Site Control Division, Office of Emergency and Remedial Response, Environmental Protection Agency, 401 M Street, S.W., Washington, DC.

DEAR MR. WYER: I am submitting herewith a corrected copy of my December 13, 1984 comments on the proposal to list Pesticide Contaminated well sites in the State of Hawaii on the National Priorities List. We apologize for the inconvenience this might have caused and have taken the liberty to underscore the corrected comments.

I would greatly appreciate your substituting my previous transmittal with the corrected copy herewith.

Thank you for your consideration.

Sincerely,

WARREN G. HAIGHT,
Vice President-Hawaii.

Enclosure.

CASTLE & COOKE, INC.,
Honolulu, HI, December 13, 1984.

Mr. RUSSELL H. WYER,
Director, Hazardous Site Control Division, Office of Emergency and Remedial Response, Environmental Protection Agency, 401 M Street, S.W., Washington, DC.

DEAR MR. WYER: On October 15, 1984, the Environmental Protection Agency ("EPA") proposed to add 238 sites to the National Priorities List ("the NPL") under Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA" or "Superfund"). Among the sites nominated for inclusion on the proposed list are six groups of wells situated above the Central Oahu aquifer in the State of Hawaii. These wells have been contaminated by certain

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chemicals including the pesticide dibromochloropropane ("DBCP"), the pesticide ethylene dibromide ("EDB"), and trichloropropane ("TCP"), a constituent of the pesticide D,D (which contains 1,2-dichloropropane and 1,3-dichloropropene). EDB is also a constituent of petroleum and its presence in the Oahu groundwater may be attributable to leaking underground fuel storage tanks and transmission lines, rather than to the agricultural use of pesticides.

In its October 15, 1984, proposal, EPA noted that the six sites are the first such sites proposed by EPA to be added to the NPL on the basis of releases which appear to originate from the application of federally sanctioned pesticides. The agency solicited comments on whether the Superfund statute is well suited to dealing with the special—and apparently widespread—problems of groundwater contamination from lawful agricultural use of pesticides. EPA also requested comments on whether alternative statutory tools or approaches are more appropriate for addressing the type of problem presented.

These comments are submitted on behalf of Castle & Cooke, Inc. Castle & Cooke is vitally interested in the issues raised by EPA's proposal to list the Hawaiian well sites and supports the cautious and judicious approach taken by the agency in the preamble. The company's activities in Hawaii include both agriculture and land development for residential purposes. Castle & Cooke is the developer of Mililani Town, the site of one set of wells proposed for inclusion on the NPL. As an agricultural grower concerned with supplying safe and wholesome food products to the public and as a residential developer concerned with providing clean, safe, and affordable housing developments, Castle & Cooke brings a balanced perspective to the complex legal and public policy issues raised.

In our view, the Superfund statute is not the appropriate vehicle to deal with situations where agriculturally applied pesticides are found in groundwater. EPA has adequate authority under the Safe Drinking Water Act ("SDWA") to address any public health problems posed by pesticides in groundwater supplies. Equally important, the SDWA provides the analytical framework for developing the advisories and maximum contaminant levels ("MCLs") necessary to determine when remedial measures are required to protect public drinking water supplies. The public has a right to demand that decisions about cleanup of drinking water sources be consistent and based on sound scientific information and evidence of risk. EPA must develop such information and make informed decisions on a consistent basis in the many areas of the country that have likely experienced some contamination of groundwater sources by agricultural pesticides. Therefore, we believe that EPA should work closely with the new National Ground Water Commission to develop an appropriate policy for this apparently widespread problem.

EPA apparently recognizes that, under Section 107(i) of CERCLA, neither EPA nor the States can recover response costs or damages from private parties for contamination caused by the normal field application of registered pesticides. Superfund cleanup programs for pesticide-contaminated groundwater in agricultural areas throughout the United States could require a staggering, unplanned, and unwise expenditure of Superfund monies. To conserve the Trust Fund for its intended purpose of remedying the more severe environmental hazards caused by toxic waste dumps and chemical spills, EPA should use existing federal and state groundwater protection programs to find remedial solutions for any public health problems posed by pesticide-contaminated aquifers. Existing statutes and programs other than Superfund provide a framework within which this problem can be addressed.

In submitting these comments, therefore, we will review the legitimate legal and policy objections that may be made to using the Superfund program to clean up groundwater contaminated by the routine application of federally regulated agricultural pesticides. The comments will also review the tools available to state and federal authorities under existing statutes and programs to address this problem.

The State of Hawaii's and City and County of Honolulu's principal concern, with respect to the six proposed sites, is the protection of public health. Each well site proposed for inclusion on the NPL has been or could be used to supply drinking water to residents of Hawaii. In order to protect the public health of area residents, the State's goal is to assure that funds be made available for required remedial action at the well sites. The State's investigation of alternative remedial measures, as well as a review of recent EPA publications, show that activated carbon filtration is a demonstrated and available technology that will reduce pesticide residues to below detectable levels—a satisfactory and complete response to any public health threat posed by the contamination found in the six groups of wells. Substantial private and public funds have therefore been committed to pay for a carbon filtration system at two of the sites proposed for listing (Mililani and Waipahu) and negotiations are currently underway for private financial support for a similar carbon fil-

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tration system at a third proposed site (Kunia I). These water treatment systems are scheduled to be installed and operational by September 1985.

In view of the legal and policy constraints on EPA in using the Superfund program to remedy groundwater contamination from pesticides, and because existing statutory authority and resources can be made available to address the problems in Hawaii, we recommend that EPA not list the sites on the NPL. Public benefit does not arise out of Superfund listing in itself, but rather from the allocation of adequate resources which are better drawn from other programs and applied on nationally consistent criteria.

I. Should the Superfund program be used to remedy groundwater contamination from normal uses of registered pesticides?

A. Legal constraints. The Superfund statute expresses the clear intent of Congress that, as a policy matter, farmers and agricultural producers not be held liable to repay response costs or to pay damages for contamination resulting from long-standing and customary uses of federally registered pesticides. The statute itself clearly states:

No person (including the United States or any State) may recover under the authority of this section for any response costs or damages resulting from the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act. 42 U.S.C. Section 9607(i).

The legislative history makes evident that although EPA may have authority to spend Superfund money to clean up a pesticide-contaminated site, neither the federal government, a State, nor a private party may recover remedial costs or damages from farmers and growers for contamination caused by the field application or other normal uses of pesticides registered under the Federal Insecticide, Fungicide, and Rodenticide ("FIFRA").[1] The liability exclusion is carefully drawn; it does not shield agricultural producers from liability for pesticide spills or intentional dumping.[2] But it does prevent grower from bearing the cost of remedial response measures and damages for environmental releases resulting from the ordinary and necessary agricultural uses of federally regulated pesticides.

The policy rationale for the liability exclusion is self-evident. Agriculture is of enormous significance to the national economy. Farmers and agricultural producers who use registered and sanctioned pesticides in accordance with strict federal requirements should not be held liable for the unanticipated and unforeseen effects of their usage. Congress enacted Superfund to deal with the serious problem of disposal of toxic wastes and the continuing danger of chemical spills. Unlike hazardous wastes, pesticides are applied to crops with a view towards controlled and non-adverse release to the environment. Their use is strictly regulated based on extensive testing by the manufacturer and review of test data by EPA. For these reasons, Congress accorded special consideration to environmental releases caused by the agricultural use of registered pesticides.

B. Existing Statutes and Programs. Given the fact that, under CERCLA, EPA and the State will be unable to recover from private parties any response costs used for the cleanup of groundwater contaminated by pesticides and given the congressional policies underlying the statute, on balance, the key considerations significantly argue against the proposed extension of the Superfund program to this problem.

A framework for addressing the problem of pesticide-contaminated aquifers is available under other existing statutes and programs, federal and state. The key elements of an integrated approach are as follows:

1. Establishment of health advisories or enforceable primary drinking water standards and criteria for pesticides under the Safe Drinking Water Act ("the SDWA") stating as a basis for informed decisions on when cleanup of drinking water supplies is necessary;

2. Coordination of efforts by EPA with the new National Ground Water Commission to develop a consistent national policy for this problem;

3. Increased review of registration for new and existing pesticides under FIFRA for potential groundwater impacts and necessary labeling requirements;

4. Use of the grant authority under the Clean Water Act to assist State and local governments in developing groundwater protection programs;

5. Adequate funding for state and local governments through existing authorities such as Section 1442 of the Safe Drinking Water Act.

We will briefly consider each of these points.

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[1] 26 Cong. Rec. S15096 (Nov. 24, 1980) (statement of Senator Cannon).

[2] S. Rep. No. 848, 96th Cong., 2d Sess. 45 (1980).

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1. Standards. No federal or State standards or maximum contaminant levels exist for the pesticides found in the Hawaiian wells proposed for inclusion on the NPL. However, EPA recently proposed to set in motion the administrative procedures for establishing such standards. On October 5, 1983, EPA published an advance notice of proposed rulemaking ("ANPR") its intention to study a number of registered pesticides to determine whether to place legally enforceable limits on their concentrations in drinking water.[3] The list of candidates includes EDB, DBCP, and dichloropropane (which contains TCP)—each of the contaminants found in the Oahu aquifer. If EPA does in fact set maximum contaminant levels ("MCLs") for pesticides public water systems nationwide will be required to meet those standards, or to use treatment techniques to reduce the level of contaminants where it is not feasible to ascertain their exact concentration in drinking water supplies.[4]

Groundwater contamination from pesticides is a problem that likely exists in every agricultural area in the United States.[5] There is compelling need for a coherent and uniform protection policy.[6] Neither the federal nor State governments can make informed and consistent decisions about when or how to clean up drinking water supplies without adequate data on toxicological effects and risks. In the absence of such data, health advisories or maximum contaminant levels, there are no clear directives to guide remedial programs, whether conducted under Superfund, the Safe Drinking Water Act, or pursuant to State law.

The EPA should use its ample authority under the Safe Drinking Water Act to establish guidelines or standards which will enable public entities to make difficult decisions about the allocation of scarce resources to treat drinking water supplies containing pesticides when necessary to protect public health. In the absence of such standards, and despite the low levels of contamination found in existing drinking water wells on Oahu, the State of Hawaii and the Board of Water Supply have committed their own funds and secured commitments of private funds to treat contaminated water in the public water system.

Castle & Cooke, Inc. supports this approach and has committed $2.32 million to the Board of Water Supply for the purpose of constructing a treatment facility at Mililani Town.

2. Coordination of Efforts with National Ground Water Commission. The potential risks associated with pesticide leaching into groundwater must be addressed through a carefully developed national policy. The newly-created National Ground Water Commission provides the appropriate forum for assessing these problems and developing nationally consistent solutions. The Commission was established under the Hazardous and Solid Waste Amendments of 1984 (P.L. 98-616, November 8, 1984) to study comprehensively the problems of groundwater contamination throughout the United States. By October 30, 1986, the Commission is to issue a report with its conclusions and recommendations for regulatory approaches and/or new legislation. Thus, the Commission will provide the appropriate focus for dealing with potential pesticide-contaminated aquifer problems. By coordinating its efforts with the Commission, EPA can develop a national policy which approaches these problems creatively and effectively.

3. Pesticide Registration. EPA has clear authority under FIFRA to consider whether pesticides will migrate through agricultural soil into underlying aquifers when it reviews pesticide registrations, and may proscribe uses by label restrictions where adverse impacts are expected.[7] FIFRA provide for pre-market review and post-market surveillance of pesticides in order to protect against any unreasonable adverse effects on public health or the environment. EPA can refuse to register a pesticide or restrict its use if it causes unreasonable adverse effects.[8] It can also cancel, restrict, or suspend a pesticide registration on the same basis.[9]

EPA has already used its FIFRA authority to suspend the use of EDB (one of the contaminants found in the Oahu wells) as a soil fumigant and to phase out its use as a fumigant on harvested fruits and vegetables.[10] DBCP has not been used on

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[3] 48 Fed. Reg. 45,502 (Oct. 5, 1983).

[4] 42 U.S.C. Sections 300f(1)(C), 300g-1(b)(3).

[5] A recent Government Accounting Office study found groundwater contamination in 14 of 15 states surveyed. Pesticides are among the substances cited as a chief source of contamination in some areas. 14 Env't Rep. (BNA) 2209 (April 6, 1984).

[6] See generally Env't Rep. Current Dev. (BNA) at 960 (Aug. 24, 1984); 14 Env't Rep. (BNA) 221 (July 1, 1983).

[7] See 49 Fed. Reg. 42,856 (Oct. 24, 1984) (to be codified at 40 C.F.R. Section 158.130).

[8] 7 U.S.C. Section 136a(c)(5), (6).

[9] 7 U.S.C. Section 136d.

[10] See 48 Fed. Reg. 46,228 (Oct. 11, 1983); 48 Fed. Reg., 46,234 (Oct. 1 1983).

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Oahu in any significant amounts since 1977 when questions about its properties were first raised. Increased review of pesticide registrations and imposition of use restrictions on new and existing pesticides will enable EPA to protect against groundwater contamination—a key element in an integrated approach to the overall problem.

4. Grant Authorities. EPA is authorized to make grants to States or to publicly owned water systems under several provisions of the Safe Drinking Water Act.[11] The Clean Water Act also provides grant assistance the States for a number of programs including the development of local policies to meet and maintain water quality standards.[12] As an example of this, the State of Hawaii has recently allocated $50,000 of its Section 205(j) Clean Water Act funds to researchers at the University of Hawaii for development of State groundwater protection policies.

Efforts such as these are consistent with EPA's new Ground-Water [sic] Protection Strategy. A principal conclusion of the Strategy is that States, with local governments, should have the principal role in groundwater protection and management.[13] The Strategy specifically calls for increased support to States for solutions to groundwater problems and development of State capabilities to protect groundwater.[14]

This review of existing statutes and programs makes several points clear. First, EPA has sufficient legal authority under the Safe Drinking Water Act to take any measures necessary to protect the public health. Second, FIFRA can be used to effectively prevent the contamination of groundwater sources by agricultural pesticides. Third, there is a need to develop federal guidelines or standards in order to decide when groundwater sources require remedial action. Fourth, EPA's new Ground-Water Strategy concludes that States should have principal responsibility for groundwater protection with technical and financial support from the federal government. These findings support the view that existing statutes other than CERCLA provide a regulatory framework for addressing the problem of groundwater contamination from agricultural pesticides.

II. CONCLUSION

The Superfund program itself will do nothing to clarify how, when, and to what extent pesticide-contaminated aquifers should be cleaned up. No relevant health standards exist on which to base a remedial response when trace amounts of pesticides are found in drinking water supplies. EPA has announced that, in undertaking Superfund cleanups, it may deviate from established stringent standards, where the cost of a cleanup is excessive in view of the law's mandate to balance the Fund; where a cleanup is technically infeasible; where it would produce unacceptable environmental effects; or where it would be merely an interim solution.[15]

This approach is consistent with the State of Hawaii's view that the only feasible approach to groundwater problems at the six proposed well sites on Oahu is to treat the water as it is withdrawn from the wells and before people are exposed to it by drinking, showering, or other beneficial uses. Given the technical infeasibility of cleaning up an entire underground water system, the cost of such an effort, and the fact that contaminants now in the soil might not reach the water table for decades, well treatment is the only solution.

The City and County of Honolulu has committed some of its own resources and has secured private funds to install carbon filtration systems at a number of wells. Carbon filtration is a demonstrated and available treatment technology.[16] It will purify drinking water supplies so that pesticide residues and other contaminants are reduced to undetectable levels.

In view of the congressional policy of not permitting EPA or the States to recover cleanup costs under the Superfund program from agricultural growers who used federally registered pesticides, and given the fact that alternative statutory programs are a superior means of addressing the pesticide problem, the Hawaiian well sites should not be listed on the NPL. Instead, federal financial resources should be made available to the State and County to implement their cost-effective and prudent strategy to protect the public health.

Sincerely,

WARREN C. HAIGHT,
Vice President-Hawaii.

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[11] 42 U.S.C. Section 300j-1(a)(2)(B); 42 U.S.C. Section 300j-1(b)(3)(C).
[12] 33 U.S.C. Subsection 1254, 1255(g)(j).
[13] EPA, *Ground-Water Protection Strategy* at 29 (August 1984).
[14] *Id.* at 35-36.
[15] Env't Rep. Current Dev. (BNA) at 684, 699-700 (Aug. 31, 1984).
[16] 49 Fed. Reg. 24,330-32 (June 12, 1984).

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